泰索科技
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泰索科技
TAISUO TECHNOLOGY



TAISUO TECHNOLOGY

SELECTION MANUAL

Aiming to be the world famous brand of temperature thermal management system.

TAISUO
www.taisuo.com



THIS MANUAL PROVIDES BASIC SELECTION ASSISTANCE FOR CUSTOMERS. WE UNDERTAKE VARIOUS HIGH-END CUSTOMIZED TEMPERATURE THERMAL MANAGEMENT PROJECTS.PLEASE CONTACT US FOR FURTHER INFORMATION!

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COMPANY PROFILE

Established in 1992, Zhejiang Taisuo Technology Co., Ltd. is a specialized and innovative "invisible champion" enterprise dedicated to the development, production, sales, and service of thermal management technology. With 30 years of industry focus, Taisuo has obtained dozens of utility model and invention patents and has engaged in long-term cooperative research and development with domestic university mentors, professors from materials science departments, and research institute experts. The company has achieved significant results in the field of cutting-edge thermal management technology, providing long-term sustainable growth momentum.

The company has participated in and drafted national standards such as "GB/T 36016-2018 MI Continuous Thermocouple Cables and MI Continuous Thermocouples," "GB/T 36010-2018 Platinum Rhodium 40-Platinum Rhodium 20 Thermocouple Wires and Calibration Tables," and "GB/T 18404-2022/IEC61515:2016 MI Thermocouple Cables and MI Thermocouples."

Taisuo possesses professional and rare technical mastery in the field of temperature thermal management, tackling technological challenges in multiple dimensions such as "heating and cooling, temperature sensing, transmission control, and special signal processing." The company provides solutions to temperature control equipment technology problems for various industries, including automotive, energy, petroleum, military, thermal power, chemical, nuclear power, and pharmaceuticals. It has developed products around four core modules: "manufacturing industry, automotive industry, special industries, and quality life," including temperature sensors, temperature control instruments, core components of automotive exhaust sensors, extended armored temperature measurement cables, ultra-long signal cables, high-end heating cables, and new energy vehicle current sensors. Through the iterative enrichment of the product chain and technology strength that rivals international standards, Taisuo has become a long-term cooperative supplier to Fortune 500 companies and Chinese state-owned enterprises. The company's reach is gradually expanding globally, continuously setting new reform goals in segmented industry fields, and becoming a leading enterprise in the temperature thermal management segment.

The company has established an advanced comprehensive temperature control center, allowing the collection and detection of accurate data and continuous improvement at relevant nodes of product development and testing. The production line construction is guided by both quality and efficiency, ensuring the advancement and adaptability of processing equipment. Supported by a variety of modern equipment from the Taisuo Research Institute and a large number of versatile talents and expert think tanks, The company possesses strong capabilities for industrialization from trial production to mass production, fully meeting the requirements for technology application and product quality delivery.

It is precisely due to the simultaneous requirements and strict control over people, technology, and products that Taisuo Technology stands out in the broad market with an irreplaceable comprehensive competitive advantage. As Taisuo Technology steps into a new development stage, it continues to launch standardized thermal management application products by continuously accumulating research and technology in line with current market demands. The company makes extra efforts in the directions of "upstream and downstream industrial chain integration capabilities, environmentally friendly low-carbon production capabilities, and new material development capabilities."

Taisuo aims to become one of the globally active enterprises in practicing sustainable development, striving to build a strong brand with "industry influence and industrial vitality"!

CORPORATE HISTORY

In 1992, Taisuo Technology, formerly known as Huatai Instrument Company, was established.

In 1999, the company introduced automated production lines and inspection systems for temperature control instruments.

In 2006, Ningbo Taisuo Technology Co., Ltd. was established, and the first production line capable of producing 250,000 meters of MI Cables annually was launched.

In 2011, the company obtained ISO 9001:2008 international quality system certification and became a member of the China Nuclear Energy Association Council.

In 2012, Taisuo established its operational center in Hangzhou, expanding domestic and international sales channels. The same year, it upgraded and renamed itself to Zhejiang Taisuo Technology Co., Ltd.

In 2013, Taisuo invested heavily in research and development, leading to the production of core application materials for temperature thermal management, core components for automotive exhaust temperature sensors, high-end specialty signal cables, high-end heating cables, and high-temperature connectors in segmented market sectors.

In 2016, it began production as a supplier of exhaust sensor components and obtained recognition as a national high-tech enterprise.

In 2020, Taisuo obtained IATF 16949:2016 certification.

In 2021, it developed and began production of ultra-long seamless specialty signal cables, planning to achieve large-scale production in the next three years.

In 2022, large-scale production of ultra-long signal cables and heating cables commenced, entering the state-owned enterprise system.

In 2023, Taisuo was recognized as a "hidden champion" enterprise specializing in innovative niches.

In 2024, Taisuo expanded its international marketing division network and invited cooperation opportunities to advance together.

COMPANY VISION

Aiming to be the world famous brand of temperature thermal management system.

Corporate Mission:

To focus on core industries involving measurement, sensing, transmission, and control products in the field of temperature measurement and control, as well as other related peripheral series products. Simultaneously, to develop other related measurement and control products and systems in the automation field, such as sensors and transmitters, providing mid-to-high-end market services to global customers.

Corporate Purpose:

The company places "people-oriented" as the main purpose of its business operations. In product development, from the initial design to mass production, Taisuo consistently prioritizes simplicity, high cost-effectiveness, and high humanization. In the process of cooperating and communicating with customers, Taisuo strives to understand and address customers' needs and urgencies.

Corporate Philosophy:

Sincerity and integrity, striving for excellence,

rigor and efficiency, pragmatism and innovation.

Looking to the Future:

To persistently pursue the path of specialization and excellence, gradually solidify all aspects of fundamental management, improve and perfect the quality management system, enhance management maturity, and rapidly achieve the strategic goals of systematization, scale, standardization, intensification, and refinement in business management.





CORPORATE HONORS



证　明

浙江泰索科技有限公司始建于 1992 年，是一家集研发、生产、销售、服务于一体的科技型企业，是本会会员单位。

根据本会 2022 年度统计数据显示，该会员单位主要产品汽车尾气测温传感器用铠装电缆及耐热管中段部件（所属产品代码：3909990000）在行业细分领域排名前三。

特此证明。

中国仪器仪表行业协会仪表功能材料分会

2023 年 3 月 20 日







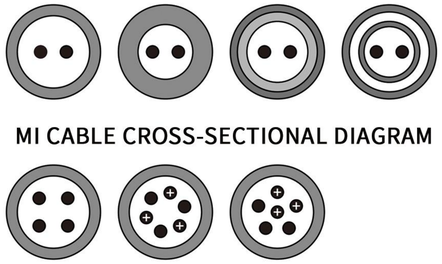
INTRODUCTION TO MI CABLE

The core wire and inorganic mineral materials (such as high-purity MgO) are placed inside a metal sheath and undergo multiple drawing processes to achieve solid filling, resulting in an airtight state with high insulation, pressure resistance, and flexibility. This solid composite, which exhibits excellent electrical and mechanical performance not found in conventional cables, is known as Mineral Insulated Cable, abbreviated as MI Cable.

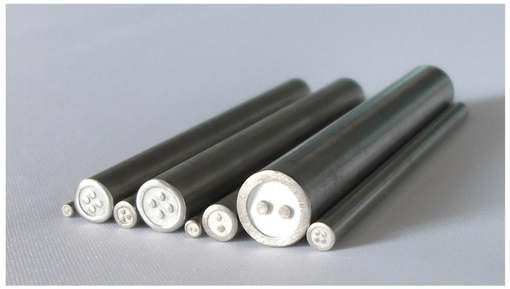


MI Cables are categorized based on their uses into various types, such as MI heating cables, MI power cables, MI signal cables, and MI temperature measurement cables. These cables are widely used in industries like chemical, pharmaceutical, food, metallurgy, machinery manufacturing, nuclear power, thermal power, and scientific experiments for temperature measurement, signal transmission, and special heating applications.

MI temperature measurement cables are divided into two types: thermocouple and RTD (resistance temperature detector). Based on the number of elements, they can be single, double, or multiple (customizable). RTD cables are further divided into two-wire, three-wire, and four-wire types.



MI CABLE CROSS-SECTIONAL DIAGRAM





In addition to the types shown in the above diagrams, our company can produce products with more core structures.Please contact us for further information!

PROBE FOR EXHAUST GAS TEMPERATURE SENSOR



INTRODUCTION TO THE PROBE：

As the core component of an exhaust gas temperature sensor, it is suitable for automotive and other motor vehicles as well as other high-temperature environments exceeding 900℃. The special materials and advanced manufacturing processes ensure stable connection and signal transmission in high-temperature environments.



UNSEALED PROBE

WE CAN PROVIDE THE CORE COMPONENT FOR THE EXHAUST GAS TEMPERATURE SENSOR.

●Product Features

Shock-resistant, long lifespan, and strong stability.
Outer tube and core material/structure are optional.
High dimensional accuracy and good product consistency.
High insulation, high-temperature resistance, and good electrical conductivity.

●Service

Professionally designed for high-temperature environments in motor vehicles.
Capable of mass production process support.
Can be produced according to customer drawings, with non-standard customization.
Standardized production with strict quality control.

●Others

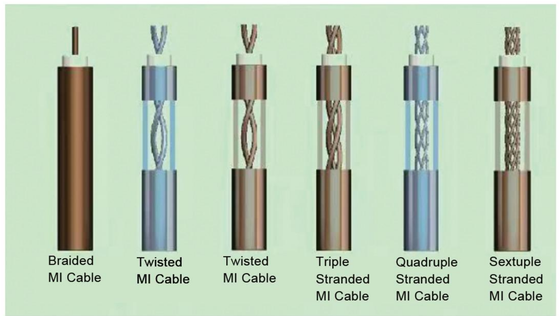
Also applicable to other signal connections.
Has developed various application system solutions for the heat-resistant tube section in the exhaust gas temperature sensors of American, European, and Japanese motor vehicles.

MINERAL INSULATED SIGNAL CABLE

MINERAL INSULATED SIGNAL CABLE INTRODUCE

Commonly referred to as MI signal cables. In addition to having good communication performance, mechanical properties, and fire resistance, they also have good non-flammability. These cables not only ensure normal communication during a fire but also do not spread flames or produce toxic smoke. They have an absolute advantage in high-end signal transmission applications.





MI signal cables consist of copper cores or other heat-resistant cores, mineral insulation materials(MgO,Al_2O_3,SiO_2), and copper or stainless steel as the outer protective tube materials.

According to the core structure,they can be divided into:

Coaxial MI Signal Cable

Twisted Pair MI Signal Cable

MI signal cables ensure the reliable transmission of both analog and digital signals in extremely harsh environments. They are widely used in high-level national security communications, aerospace, nuclear power, military industry, and other high-end signal transmission fields, possessing outstanding performance that other signal cables cannot match.



DATA SECURITY TRANSMISSION CENTER



ARMORED TANKS AND OTHER MILITARY EQUIPMENT



SPECIAL AEROSPACE CABLES FOR SATELLITES, SPACECRAFT, AND ROCKETS IN OUTER SPACE



CLASS K1 RADIATION-RESISTANT HIGH-TEMPERATURE-RESISTANT AND HIGH-FIRE-RETARDANT CABLES FOR NUCLEAR POWER PLANTS



SPECIAL MARINE CABLES FOR WARSHIPS AND (NUCLEAR) SUBMARINES

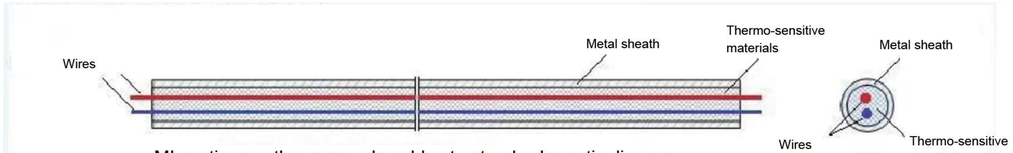


SPECIAL AEROSPACE CABLES FOR MILITARY FIGHTER JETS, HELICOPTERS, AND CIVIL TRANSPORT AIRCRAFT.

MI CONTINUOUS THERMOCOUPLE CABLE

MI CONTINUOUS THERMOCOUPLE CABLE DEFINITION AND STRUCTURAL SCHEMATIC DIAGRAM

The armored continuous thermocouple cable consists of three parts: a metal protective tube, thermocouple alloy wires, and thermal-sensitive filling material. It is made by isolating the thermocouple wires with thermal-sensitive material, placing them inside the protective tube, and compacting to form a flexible and solid composite. This cable can detect the highest temperature along its length, making it particularly suitable for temperature limit alarm systems.



MI continuous thermocouple cable structural schematic diagram

Product Features

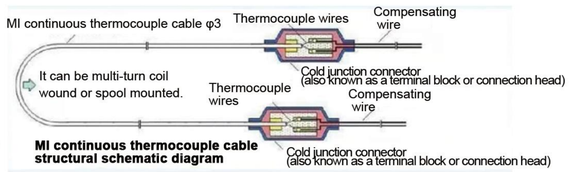
Accurate temperature sensing with minimal error.

Wide applicable temperature range and long lifespan.

High sensitivity in tracking hot spots.

High mechanical strength and good bending performance.

Good sealing, flame retardant, and waterproof.



Armored continuous thermocouples are widely used in: large-scale equipment for industrial manufacturing processes, flammable and explosive open spaces, nuclear reactors, armored vehicles, ships, fuel storage, and urban integrated utility tunnels for temperature warning monitoring and fire alarm systems.



COMPREHENSIVE URBAN UTILITY TUNNELS



NUCLEAR POWER PLANT



FUEL STORAGE



THERMAL POWER PLANT



WARSHIP



ARMORED VEHICLE

SUPER LONG SEAMLESS MI CABLE

The MI Cable of over 3000 meters in length has been officially handed over.

The cable is made by drawing from seamless steel pipe without welding and has been applied in oil and gas extraction. Welcome to order the product of greater lengths.



PS:Please contact us for further information.

MI Thermocouple/RTD

With 30 years of expertise, high precision, and high reliability, fully meeting ASTM standards.

MI Power Cable

Fire-resistant and high-temperature resistant, waterproof and ice-proof, with higher overload capacity and greater safety.

MI Heating Cable

Long-distance heating, stable heating, flexible, corrosion-resistant, and long service life.

MI Signal Cable

Stable Signal Transmission, Strong Shielding Capability.

INTRODUCTION TO SENSORS

MI Thermocouple:

MI Thermocouple is made by welding the measurement end of the MI Thermocouple cable and assembling the relevant connecting devices. The measurement end of the MI Thermocouple can be customized to be ungrounded,exposed,or grounded.



MI RTD:

The thermal resistance element, when paired with the appropriate MI cable, is welded to form the measuring end and equipped with relevant connecting devices, resulting in a thermal resistance device known as a MI RTD (Mineral Insulated Resistance Temperature Detector). The measuring end of the armored thermal resistance is ungrounded.

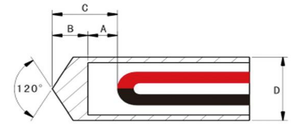
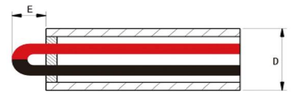
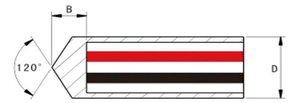
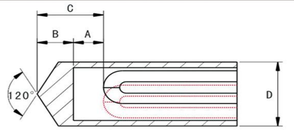
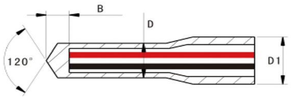


RTD assembled ceramic element



RTD assembled thin-film element

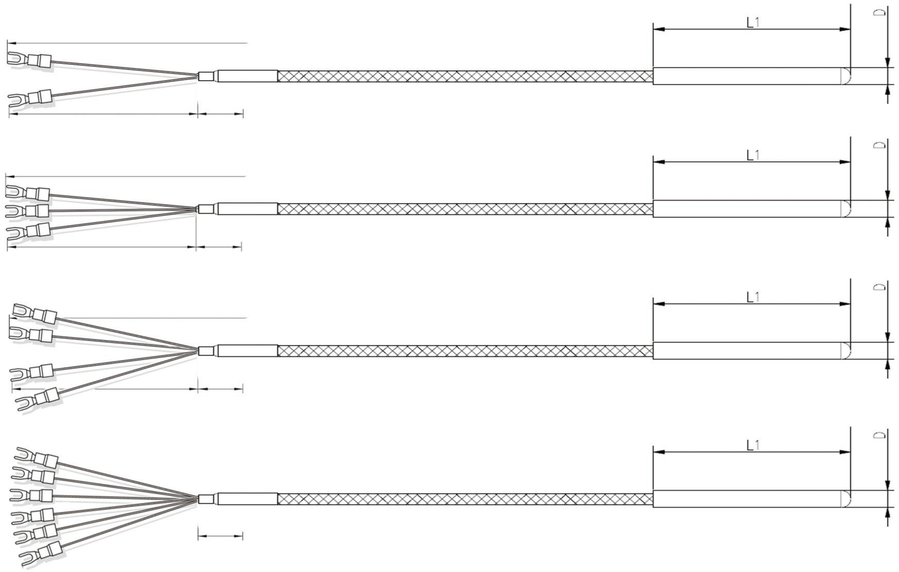
THE FORMS OF THE MEASURING END OF A THERMOCOUPLE.

FORMS	PIC	FEATURES	THERMOCOUPLE OD (MM)	
			SINGLE	DOUBLE
UNGROUNDED		The most common and default type. It has good anti-interference capabilities. The thermal response speed is slower than the grounded style.	0.5 ~ 12.7	3.0 ~ 12.7
EXPOSED		Fast response speed. Suitable for measuring the exhaust temperature of engines. Compared with other structures, it has poor strength.	1.0 ~ 12.7	3.0 ~ 12.7
GROUNDED		The thermal response speed is relatively fast. Good pressure resistance. Not suitable for environments with electromagnetic interference.	0.5 ~ 12.7	3.0 ~ 12.7
UNGROUNDED SPLIT		To avoid signal interference between pairs, it detects independently. The rest is the same as the insulated style.	-	3.0 ~ 12.7
TAPERED		It has both a fast thermal response speed and good mechanical strength and service life. It can be made into the above-mentioned types as needed.	2.0 ~ 12.7	3.0 ~ 12.7

PS:MI RTD can only product to be ungrounded or tapered.

NORMAL TYPE SENSORS

1、Assembled Cable Thermocouple/RTD



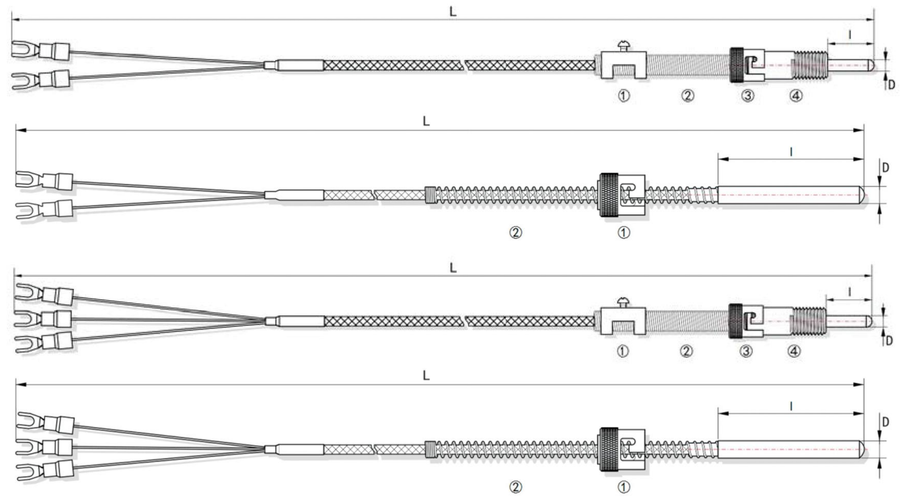
Types	K / N / E / J / T / PT100 / PT1000
Number of elements	Single / Double / Triple or more
Sheath material	304 / 316 / 321 / 310 / Inc600 / Inc800 / 2520 e.t.c.
End Form	grouded
measuring range	0℃-400℃

FEATURES:

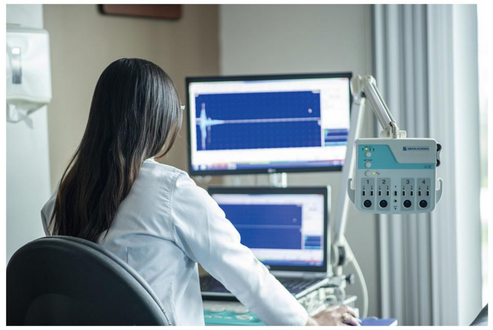
It can be used directly, or it can be processed into a variety of other types.

TAISUO®

2、ASSEMBLED SENSORS WITH BAYONET NUT CONNECTOR







Types	K / N / E / J / T / PT100 / PT1000
Number of elements	Single / Double / Triple or more
Sheath material	304 / 316 / 321 / 310 / Inc600 / Inc800 / 2520 e.t.c.
End Form	grouded
Compression Spring Kit	①Spring Retainer ②Spring ③Spring Clip ④Threaded Base
Material of Kit	Nickel-Plated Iron/ Nickel-Plated Copper / Stainless Steel
measuring range	0℃-400℃

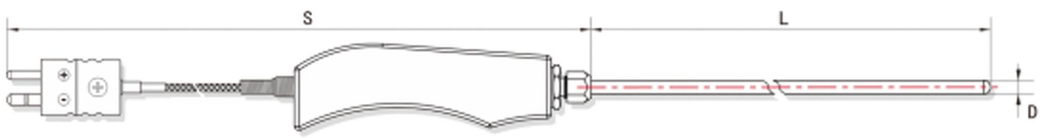
FEATURES:

Utilizes the spring force to press the probe tip tightly against the object's surface to measure the end surface temperature of the object.

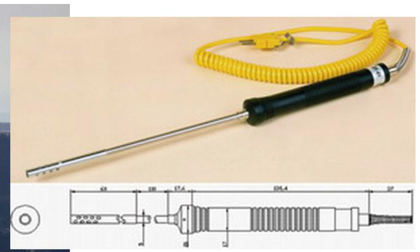
*The table above lists the standard parameters. If you have special requirements, please contact the sales representative for consultation.

NORMAL TYPE SENSORS

3、HAND HELD PROBE





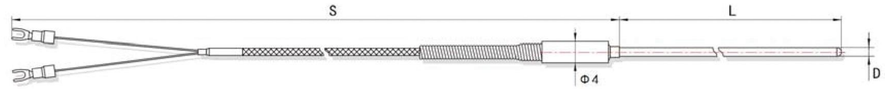


Types	K / N / E / J / T / PT100 / PT1000
Number of elements	Single / Double / Triple or more
Sheath material	304 / 316 / 321 / 310 / Inc600 / Inc800 / 2520 e.t.c.
Outer diameter	Thermocouple: φ0.5 - φ12.7 RTD: φ3 - φ12.7
Temperature measuring range	Thermocouple: 0℃-1200℃ RTD: 0-600℃

FEATURES：

It is flexible to use and convenient to carry. It is usually used in conjunction with a digital thermometer, which can directly measure and display the measured temperature. The wire connection terminals can be paired with various types of connectors and terminal blocks.

4、PROBE WITH LEAD WIRES



Types	K / N / E / J / T / PT100 / PT1000
Number of elements	Single / Double / Triple or more
Sheath material	304 / 316 / 321 / 310 / Inc600 / Inc800 / 2520 e.t.c.
Outer diameter	Thermocouple: φ0.5 - φ12.7 RTD: φ3 - φ12.7
Temperature measuring range	Thermocouple: -200℃-1200℃ RTD: 0-600℃
Mounting method	Straight Insertion Style Threaded Style Compression Fitting Thread Style Compression Spring Style

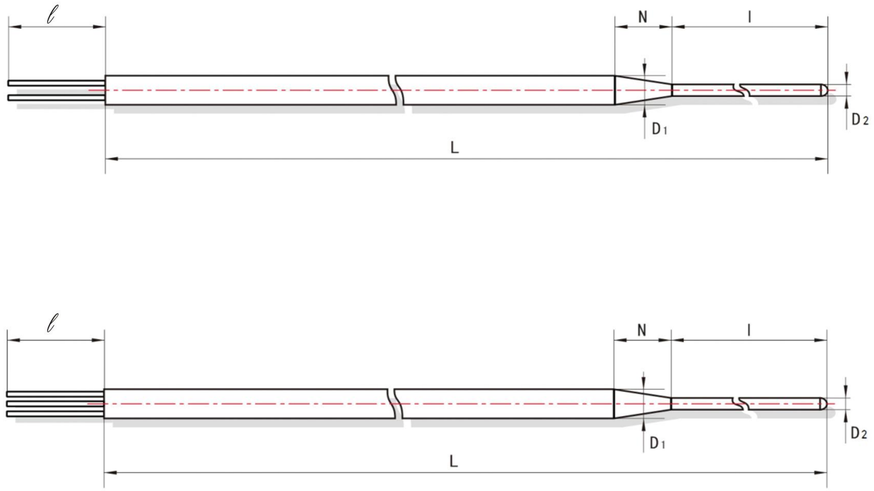
FEATURES：

It can be inserted into the interiors of pipes, furnaces, and other objects to measure internal temperatures.



NORMAL TYPE SENSORS

5、TAPERED THERMOCOUPLE AND RTDS

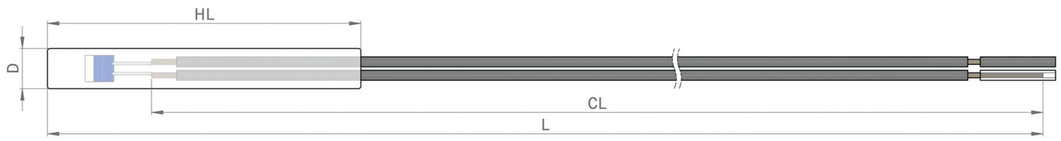


Types	K / N / E / J / T / PT100 / PT1000
Number of elements	Single / Double / Triple or more
Sheath material	304 / 316 / 321 / 310 / Inc600 / Inc800 / 2520 e.t.c.
Thermocouple outer diameter	D2: Φ1 – Φ3 D1: Φ4 – Φ6
RTD outer diameter	D2: Φ3 D1: Φ4 – Φ6
Temperature measuring range	Thermocouple: -200℃-1200℃ RTD: 0-600℃
Tips	The length of the transition section (N) depends on the specific values of D1 and D2.

FEATURES:

The integrated structure ensures the mechanical strength of the product, and a finer measuring end ensures a shorter thermal response time.

6、MOTOR WINDING TEMPERATURE SENSOR







DESCRIPTION:

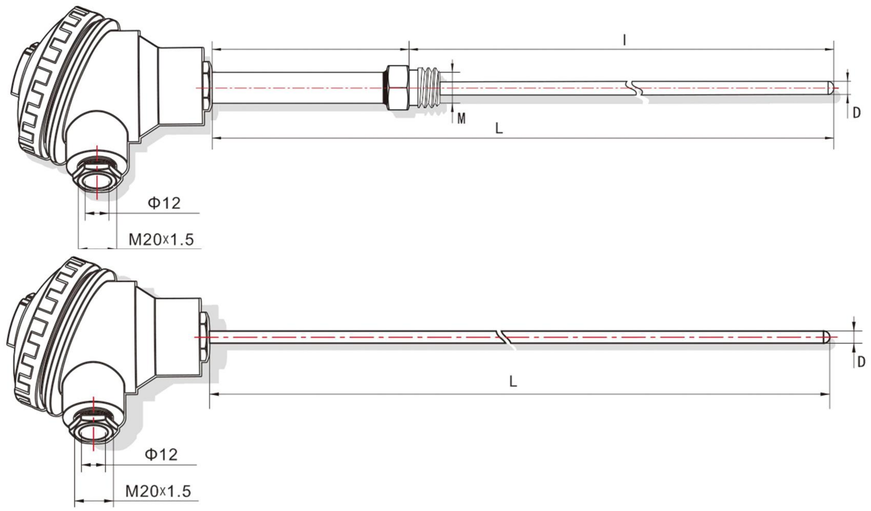
It can work long-term in environments up to 260°C, resistant to various corrosive gases and liquids.

Small in size, with good flexibility, suitable for motors of various sizes.

Faster response and more accurate

NORMAL TYPE SENSORS

7、TEMPERATUE SENSORS WITH INDUSTRIAL HEADS



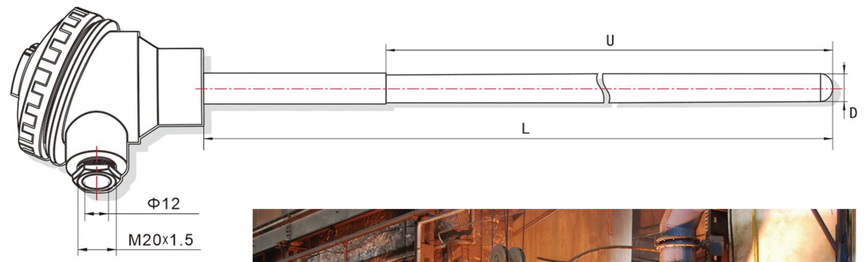
Types	K / N / E / J / T / S / R / B / PT100 / PT1000 / Cu50
Accuracy Class	Thermocouple Class 1，Class 2 RTD Class A，Class B
Connection Head material	Aluminum Alloy /304/316
Connection Head types	IP65 / Head Mounted Temperature Transmitter
measuring range	-200℃-1300℃
Sheath material	304/316/310S/Inc600/Inc800/GH3030
Mounting method	Straight Insertion / Threaded Compression Fitting Thread / Compression Spring
Other Customizable Options	Additional protective tube for the probe
	Benting the probe into other shapes
	The probe has a variable diameter
	Using an explosion-proof connection head
	Comes with other installation modules to fit various installation scenarios.
	Enhanced wear resistance and corrosion resistance.

FEATURES:

Widely used in various industrial fields, it can be paired with thread, flanges, or other mounting fixtures.

For more details, see "Appendix 3: Installation Methods Overview."

8、TEMPERATUE SENSORS WITH INDUSTRIAL HEADS





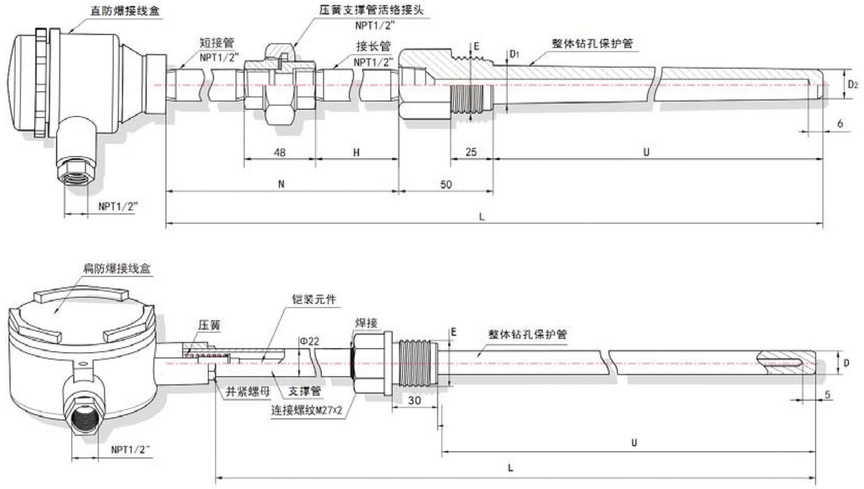
Types	K / N / S / R / B
Number of elements	Single / Double
Connection Head material	Aluminum Alloy / 304 / 316
Protection Tube material	85% Alumina Ceramic Protection Tube 99% Alumina Ceramic Protection Tube 99.7% Alumina Ceramic Protection Tube
Protection Tube Outer Diameter	Φ16mm Φ25mm（Two-layer structure）
measuring range	0~1450℃（85% Alumina Ceramic Protection Tube） 0~1600℃（99% / 99.7% Alumina Ceramic Protection Tube）
Mounting method	Fixed Thread Fixed Flange Removable Flange

FEATURES:

This product is suitable for use in high-temperature oxidizing atmospheres above 800°C, up to 1600°C, such as in metallurgy and vacuum furnaces. It is prone to cracking in environments with rapid cooling and heating, and should not be used in situations containing hydrogen sulfide.

SPECIAL SENSOR APPLICATION CASES

1、ARMORED EXPLOSION-PROOF THERMISTOR

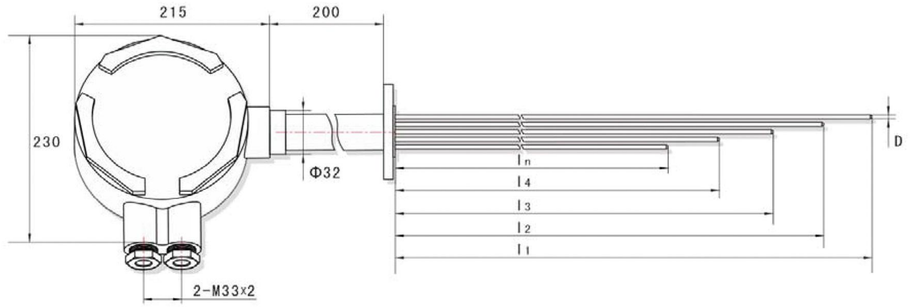


Types	K / N / E / J / T / S / R / B / PT100 / PT1000 / Cu50	
Accuracy Class	Thermocouple	Class 1，Class 2
	RTD	Class A，Class B
Connection Head material	Aluminum Alloy / 304 / 316	
Protecion Level	IP65 / BT6 / CT6	
measuring range	-200℃-1600℃	
Sheath material	304 / 316 / 310S / Inc600 / Inc800 / GH3030	
Mounting method	Straight Insertion / Threaded Compression Fitting Thread / Compression Spring	
Other Customizable Options	Additional protective tube for the probe	
	Benting the probe into other shapes	
	The probe has a variable diameter	
	Using an explosion-proof connection head	
	Comes with other installation modules to fit various installation scenarios.	
	Enhanced wear resistance and corrosion resistance.	

*The table above lists the standard parameters. If you have special requirements, please contact the sales representative for consultation.

TAISUO®

2、MULTI-POINT TEMPERATURE SENSOR WITHOUT PROTECTION TUBE



FEATURES：

This product can achieve multi-point temperature measurement within a certain range, such as measuring temperatures at various heights in a chemical reactor.



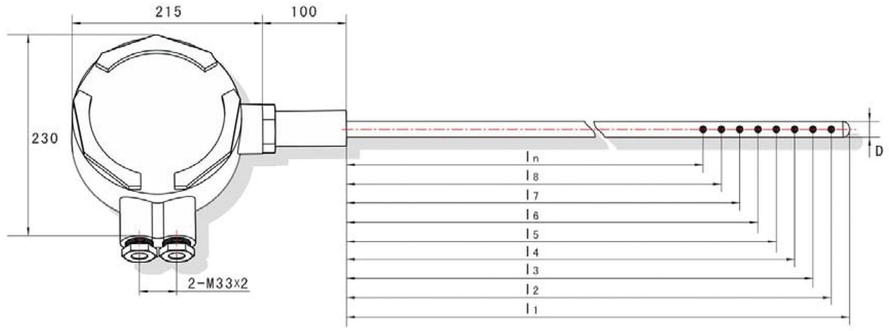


Types	K / N / E / J / T / PT100 / PT1000	
Number of elements	2~6	
Pressure	Without protective tube	≤5MPa（Class 300）
	With protective tube	Atmospheric Pressure
Element Outer Diameter	Thermocouple	Φ2~6mm
	RTD	Φ2.5~6mm
Accuracy Class	Thermocouple	Class 1，Class 2
	RTD	Class A，Class B
Measuring Range	321 / 316 Outer Tube	-200℃~800℃
	310S / Inc600 Outer Tube	-200℃~1050℃
Mounting Method	Fixed Thread Fixed Flange Removable Flange	
Electrical Interface	Multi-point explosion-proof connection head, equipped with two electrical interfaces of standard size M33×2.	

*The table above lists the standard parameters. If you have special requirements, please contact the sales representative for consultation.

SPECIAL SENSOR APPLICATION CASES

3.MULTI-POINT TEMPERATURE SENSOR WITH PROTECTION TUBE



Features and Applications:

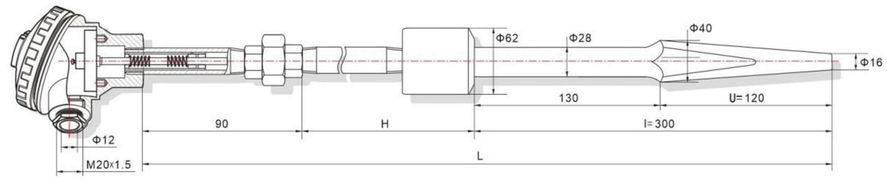
This product can perform multi-point temperature measurements within a certain range, such as measuring temperatures at various heights in a chemical reactor.

Compared to the Multi-point Sensors Without Tube, it offers more measurement points to choose from.

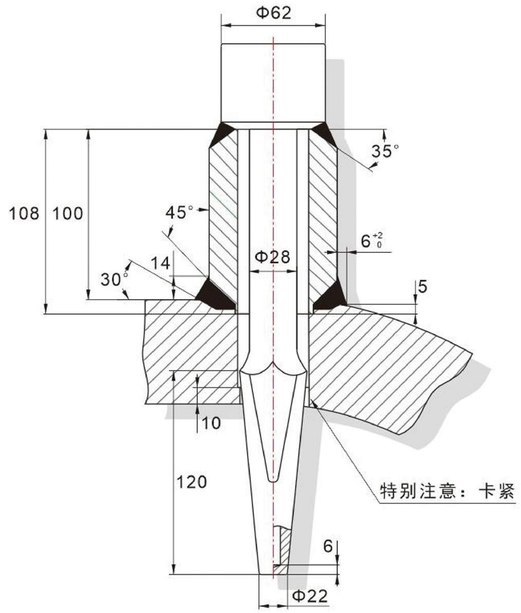
Types	K / N / E / J / T / PT100 / PT1000	
Measurement point number	2~30	
Pressure	≤42MPa(Class 2500)	
Sheath Outer Diameter	Thermocouple	Φ1~12.7mm
	RTD	Φ4~12.7mm
Accuracy Class	Thermocouple	Class 1，Class 2
	RTD	Class A，Class B
Measuring Range	321 / 316 Outer Tube	-200℃~800℃
	310S / Inc600 Outer Tube	-200℃~1050℃
Mounting Method	Fixed Thread Fixed Flange Removable Flange	
Electrical Interface	Multi-point explosion-proof connection head, equipped with two electrical interfaces of standard size M33×2.	

*The table above lists the standard parameters. If you have special requirements, please contact the sales representative for consultation.

4、POWER STATION SPECIAL-PURPOSE TWO-PART SHEATHED SENSORS



Types and Accuracy Class	K / N / E / J / T	Class 1，Class 2
	PT100	Class A，Class B
Number of elements	Double pair (recommended)	
Connection Head material	Aluminum Alloy / 304 / 316	
Protecion Level	IP65 / BT6 / CT6	
measuring range	0℃-600℃	
Sheath material	304 / 316 / 310S / Inc600 / Inc800 / GH3030	
Sheath Outer Diameter	Φ16mm（Power station special heat-shrinkable protective sleeve）	
	Φ22mm（Power station special heat-shrinkable protective sleeve）	
End Form	ungrounded	
Medium flow velocity	≤100m/s	
Response time	＜90s	
Mounting method	Welding	
Electrical Interface	M20×1.5	



APPLICATION CHARACTERISTICS:

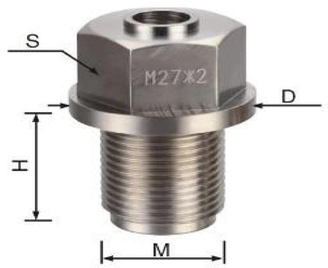
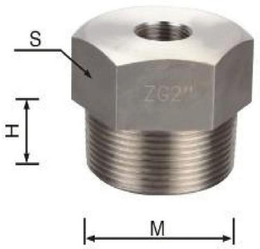
This product is suitable for temperature measurement of the main pipelines in subcritical units. After the steam enters and circulates within the cavity of the pipe seat, it flows out, which improves the measurement accuracy and thermal response time of the thermocouple.

If used on supercritical units, an improved type of thermowell protection tube is required. The outer diameter of the measuring end of the protection tube is increased from 16mm to 22mm to achieve better pressure resistance and mechanical strength.

In addition to the items listed above, we can also provide other specifications as requested. Please contact us for details.

APPENDIX 1:THREAD SIZE OVERVIEW

FIXED THREAD

THREAD CLASS	CYLINDRICAL PIPE THREAD				TAPER PIPE THREAD		
SIZE SPECIFI-CATIONS (mm)	M	H	S	D	M	H	S
	M27×2	32	32	Φ39	NPT1/8”	10	16
	M33×2	32	36	Φ44	NPT 1/4”	14	19
	G1/2”	20	27	Φ34	NPT 1/2”	20	27
	G3/4”	25	32	Φ39	NPT 3/4”	25	32
	G1”	30	36	Φ44	NPT 1”	30	38
SCHEMATIC DIAGRAM							
NOMINAL PRESSURE	10MPa						

Annotation:The standard material is SS304.Please contact us for more custom options.

COMPRESSION FITTING THREAD

SIZE SPECIFICATIONS	APPLICABLE THREAD SPECIFICATIONS CORRESPONDING TO THE DIAMETER OF THE MATING COMPONENTS（MM）												
	2.0	3.0	4.0	5.0	6.0	8.0	1.6	3.2	4.8	6.4	8.0	9.5	12.7
M	M12×1.5			M16×1.5 / M20×1.5			NPT1/8”			NPT1/4”		NPT1/2”	
H	15			15			10			14		20	
S	19			22			16			19		27	
SCHEMATIC DIAGRAM													
NOMINAL PRESSURE	2.5MPA（FIXED COMPRESSION FITTING THREAD）/ATMOSPHERIC PRESSURE（ADJUSTABLE COMPRESSION FITTING THREAD）												

Annotation:The standard material is SS304.Please contact us for more custom options.

APPENDIX 2:FLANGE SIZE OVERVIEW

FIXED FLANGE

GB / HG Common flange specifications		ANSI Common flange specifications
DN Nominal Size	PN Nominal Pressure	
10/15/20/25/32/40/50/65	0.6	–
10	1.0~4.0	–
15	1.0~4.0	1/2” 150#
20	1.0~4.0	3/4” 150#
25	1.0~4.0	1” 150#
32	1.0~4.0	1–1/4” 150#
40	1.0~4.0	1–1/2” 150#
50	1.0~4.0	2” 150#
65	1.0~4.0	2–1/2” 150#
10	6.3	–
15	6.3	1/2” 300~600#
20	6.3	3/4” 300~600#
25	6.3	1” 300~600#
32	6.3	1–1/4” 300~600#
40	6.3	1–1/2” 300~600#
50	6.3	2” 300~600#
65	6.3	2–1/2” 300~600#
10	10	–
15	10	1/2” 900~1500#
20	10	3/4” 900~1500#
25	10	1” 900~1500#
32	10	1–1/4” 900~1500#
40	10	1–1/2” 900~1500#
50	10	2” 900~1500#
65	10	2–1/2” 900~1500#
10/15/20/25/32/40/50/65	16	–
SCHEMATIC DIAGRAM		

Annotation:

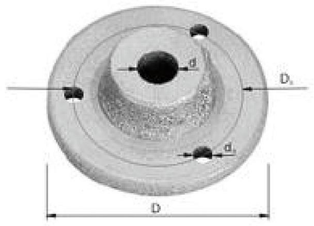
1.Standard material is SS304 or SS316.

2.Depending on the design standards, the size parameters of the flanges may vary.
The flange design standard must be specified in the order.

3.Please contact us for more custom options.

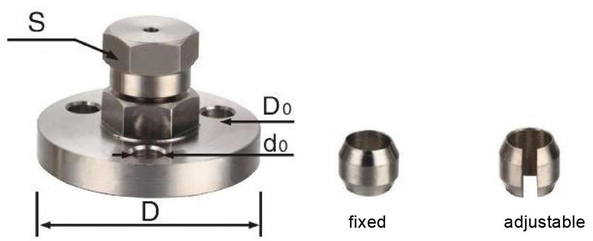
APPENDIX 2:FLANGE SIZE OVERVIEW

MOVABLE FLANGE

PROTECTION TUBE OD d(mm)			SIZE SPECIFICATIONS		
			D OD OF FLANGE	D_0 BOLT CIRCLE DIAMETER	d_0 BOLT HOLE DIAMETER
12	16	20	70	54	6
SCHEMATIC DIAGRAM					
NOMINAL PRESSURE			atmospheric pressure		

Annotation:Standard material is cast iron.

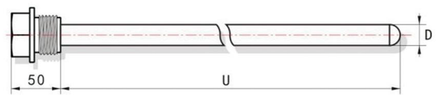
COMPRESSION FITTING FLANGE

SIZE SPECIFICATIONS	APPLICABLE FLANGE SPECIFICATIONS CORRESPONDING TO THE DIAMETER OF THE MATING COMPONENTS(MM)						
	2.0	3.0	4.0	5.0	6.0	8.0	12.0
D	50			60			75
D_0	36			42			50
d_0	7			9			11
S	19			22			27
SCHEMATIC DIAGRAM							
Nominal Pressure	2.5Mpa（fixed compression fitting thread） atmospheric pressure（adjustable compression fitting thread）						

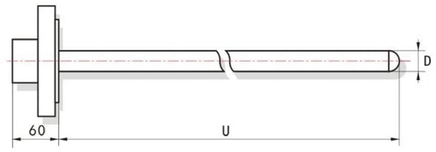
Annotation:The standard material is SS304.Please contact us for more custom options.

APPENDIX 3:INSTALLATION METHODS OVERVIEW

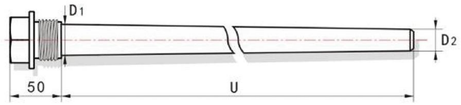
- Fixed thread, seamless stainless steel protection tube with overall drilling.



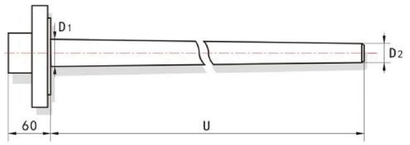
- Fixed flange, seamless stainless steel protection tube with overall drilling.



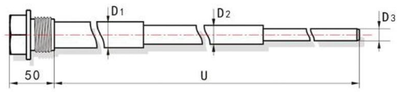
- Fixed thread, seamless tapered protection tube with overall drilling.



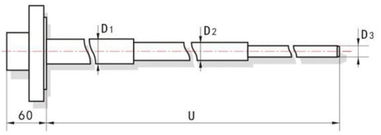
- Fixed flange, seamless tapered protection tube with overall drilling.



- Fixed thread, seamless reduced diameter protection tube with overall drilling.



- Fixed flange, seamless reduced diameter protection tube with overall drilling.



APPENDIX 4: PROTECTION RATING OVERVIEW

IP RATINGS

IP stands for Ingress Protection. It refers to the level of protection against intrusion from foreign bodies and moisture.
Derived from the IEC 60529 standard.
The IP rating format is IP**, where ** is replaced by two Arabic numerals.
The first numeral represents the level of protection against dust,
The second numeral represents the level of protection against water.
Common ratings in this industry is IP65.



Dust Protection Level

Numerals	Protection range	Explanation
0	No protection	No special protection against external persons or objects.
1	Protection against solid objects larger than 50mm in diameter	Prevents accidental contact with internal components of the electrical appliance by a person (e.g., a hand) and prevents the intrusion of larger external objects (diameter larger than 50mm).
2	Protection against solid objects larger than 12.5mm in diameter	Prevents contact with internal components of the electrical appliance by a person's fingers and prevents the intrusion of medium-sized external objects (diameter larger than 12.5mm).
3	Protection against solid objects larger than 2.5mm in diameter	Prevents the intrusion of tools, wires, and similar small external objects larger than 2.5mm in diameter or thickness that could come into contact with internal components of the electrical appliance.
4	Protection against solid objects larger than 1.0mm in diameter	Prevents the intrusion of tools, wires, and similar small external objects larger than 1.0mm in diameter or thickness that could come into contact with internal components of the electrical appliance.
5	Protection against external objects and dust	Completely prevents the intrusion of external objects, and although it does not completely prevent dust intrusion, the amount of dust entering will not affect the normal operation of the electrical appliance.
6	Protection against external objects and dust	Completely prevents the intrusion of external objects and dust.

Water Protection Level

Numerals	Protection range	Explanation
0	No Protection	No special protection against water or moisture.
1	Protection against vertical dripping water	Vertically falling drops of water (such as condensation) will not damage the electrical appliance.
2	Protection against dripping water when tilted at 15 degrees	When the electrical appliance is tilted up to 15 degrees from the vertical, dripping water will not cause damage.
3	Protection against spray water	Protection against rain or water sprayed from directions with an angle less than 60 degrees to the vertical, preventing damage to the electrical appliance.
4	Protection against splashing water	Protection against water splashing from all directions, preventing damage to the electrical appliance.
5	Protection against jet water	Protection against water sprayed from all directions by a nozzle, preventing damage to the electrical appliance.
6	Protection against large waves	Electrical appliances installed on the deck can be protected from damage caused by the large waves.
7	Protection against immersion	Immersed in water at a depth of 150mm to 1000mm for 30 minutes, the electrical appliance will not be damaged due to immersion.

EXPLOSION-PROOF RATING

In our industry, the common format is “Ex d ll CT1~6”. "Ex" refers to Explosion. The meanings of the other characters are shown in the following table.

CHARACTER	MEANING	DESCRIPTION	
d	Protection types	d	Protection types
		Ia	Intrinsic safety type
ll	Usage scenarios	I	Mining electrical equipment
		ll	Industrial electrical equipment(corresponding to our industry)
C	Gas Group Classification	Based on the maximum safe gap for explosive gas mixtures or the minimum ignition current, they are divided into three levels: A, B, and C. In this industry, the common ones are levels B and C.	
T1~6	Temperature Classification	Device may be exposed to gases whose ignition temperature is higher than this value.	
		T1	450℃
		T2	300℃
		T3	200℃
		T4	135℃
		T5	100℃
		T6	85℃

CONNECTION HEADS

IP65~67

APPLICATION

Connection Heads are widely used in the assembly of thermocouples and resistance thermometers, equipped with internal terminal boards or transmitters, and are compliant with IP Rating. They are generally made of die-cast aluminum alloy, but materials resistant to corrosion, such as phenolic plastics, are also used depending on the application environment.

SPECIALIZED PRODUCTION

- High-quality molds ensure long-lasting and efficient die-casting processes.
- Die-casting machines ranging from 160 tons to 300 tons are available to meet various model requirements.
- The most suitable die-casting pressure for products is applied to strive for the perfect casting.
- A variety of polishing equipment meets different surface treatment requirements for products.
- Precision machining strictly adheres to international thread standards. Each batch of products is calibrated and inspected with go/no-go gauges.
Two painting methods are available for selection:
- Conventional liquid painting
- Polyester resin powder electrostatic spray coating

Sealing Rubber Rings

- Oil-resistant rubber
- Silicone rubber

Materials

- Aluminum alloy
- Phenolic material
- Stainless steel 304, 316



BEST-SELLING
CONNECTION HEADS

Annotation

If you need special designs ,please contact us for customization.

Our advantages include high quality, low prices, large inventory, and efficient production efficiency. Our customers are spread all over the world.

We are very open to cooperating with you to develop new products.

DISPLAY OF SOME STYLES(CUSTOMIZABLE AS NEEDED).































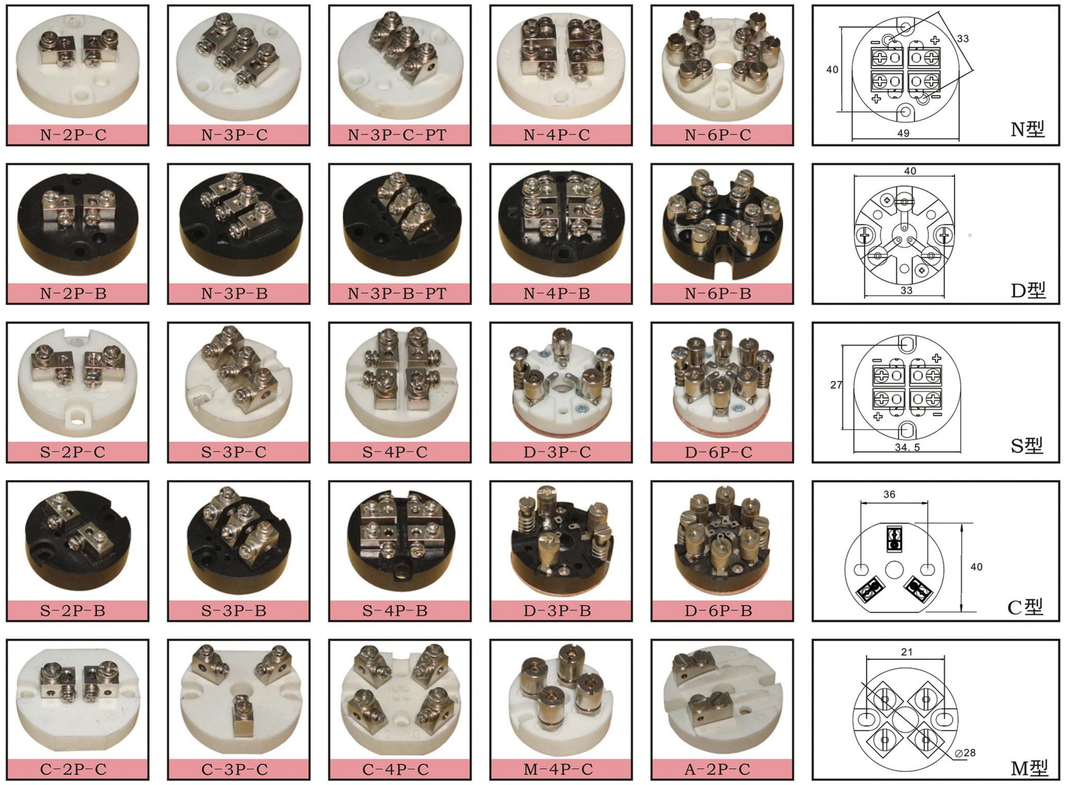
CERAMIC/PHENAKITE TERMINAL BOARD

Ceramic terminal board material: Talc powder & paraffin wax, 95 porcelain Phenakite material terminal board

Terminals: Copper plated with nickel

Screws: Stainless steel, copper plated with nickel, iron

Mounting hole spacing: 40MM, 33MM, 27MM, 36MM, 21MM, 46MM



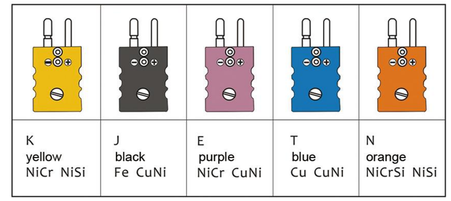
If you have special requirements, you can contact our sales representatives. Taisuo has extensive experience in customizing non-standard products and welcomes your inquiries.

TAISUO®

TEMPERATURE SENSOR CONNECTORS

Quick-connectors are widely used for connecting the circuitry of thermocouples and resistance temperature sensors, offering the best solution for quick plug-and-play of sensors. You can choose different models based on the actual application scenario.

COLOR CODE



- The housing material comes in thermoplastic and ceramic options.

- The conductor is made of thermocouple alloy material.

- The conductors are distinguishable for positive and negative poles.

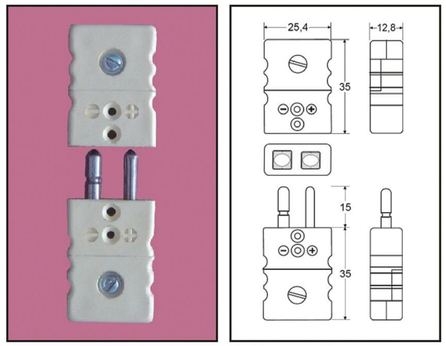
● We offer you two types of metal conductors, hollow and solid, with good connect and competitive pricing.

● The well-designed plastic body ensures perfect insulation, while the metal inserts guarantee good connect performance.

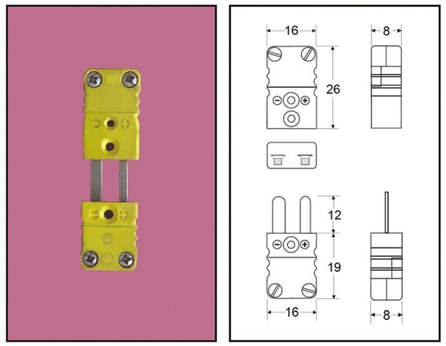
● The use of thermoplastic can reach temperatures up to 200°C.

● We provide you with connectors in various standard colors, and you can also customize connectors in various colors according to your personalized needs.

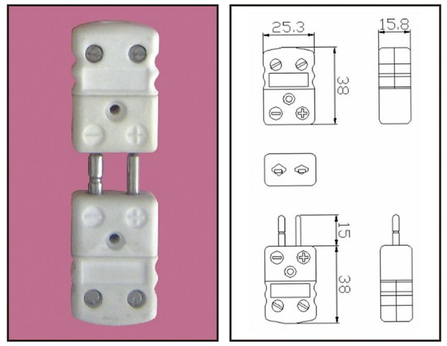
THERMOPLASTIC STANDARD SIZE CONNECTORS



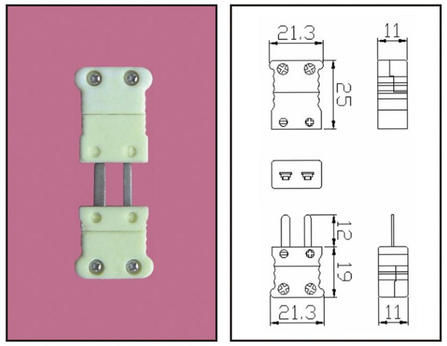
THERMOPLASTIC MINI SIZE CONNECTORS



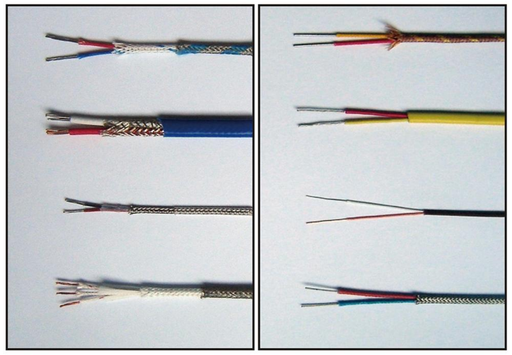
CERAMIC STANDARD SIZE CONNECTORS



CERAMIC MINI SIZE CONNECTORS



THERMOCOUPLE COMPENSATING CABLE



- Cable Structure

Conductors: Thermocouple alloy material (stranded or solid)

Insulation (four types of insulating materials)

Glass fiber (ambient temperature 0-300°C)

PVC (ambient temperature 0-105°C)

Teflon (ambient temperature 0-350°C)

Silicone rubber (ambient temperature 0-180°C)

Sheath material: Glass fiber, PVC, Teflon, and silicone rubber

Sheaths can be flat or round

Shield layer material: Stainless steel braiding, tin-coated copper braiding

- When glass fiber is used as the insulating material, there is a layer of twisted weaving on the inside and a layer of mesh weaving on the outside to achieve the best insulation effect.
- Complies with the IEC584 international standard
- If you have special requirements, such as outer diameter or manufacturing process, please contact us, and we will provide you with the best solution.

AMERICAN AWG WIRE GAUGE STANDARD AND METRIC STANDARD CONVERSION

AWG代码	线径（mm）	AWG代码	线径（mm）
0	8. 25	23	0. 574
1	7. 35	24	0. 511
2	6. 54	25	0. 455
3	5. 83	26	0. 404
4	5. 19	27	0. 361
5	4. 62	28	0. 320
6	4. 11	29	0. 287
7	3. 67	30	0. 254
8	3. 26	31	0. 226
9	2. 91	32	0. 203
10	2. 59	33	0. 180
11	2. 30	34	0. 160
12	2. 05	35	0. 142
13	1. 83	36	0. 127
14	1. 63	37	0. 114
15	1. 45	38	0. 102
16	1. 29	39	0. 089
17	1. 15	40	0. 079
18	1. 02	41	0. 071
19	0. 912	42	0. 064
20	0. 813	43	0. 056
21	0. 724	44	0. 051
22	0. 643		

THERMOCOUPLE COMPENSATING WIRE COLOR STANDARDS.

THERMOCOUPLE TYPE \ COLOR STANDARDS		ANSI	DIN	BS	NFC	JIS	IEC
K	+NICRO −NIAL	+ −	+ −	+ −	+ −	+ −	+ −
J	+IRON −CONSTANTAN	+ −	+ −	+ −	+ −	+ −	+ −
E	+NICRO −CONSTANTAN	+ −	+ −	+ −	+ −	+ −	+ −
T	+COPPER −CONSTANTAN	+ −	+ −	+ −	+ −	+ −	+ −
N	+NICROSIL −NISIL	+ −	– –	+ −	– –	– –	+ −
S	+COPPER −CUPRONIC	+ −	+ −	+ −	+ −	+ −	+ −

TEMPERATURE CONTROL INSTRUMENT SERIES

The temperature control instrument was the first product developed by Taisuo Technology in the field of temperature thermal management and has been in production for nearly 30 years. Through long-term cooperation with foreign instrument companies, providing product and technology output through ODM and OEM methods, the company has many loyal customers at home and abroad.

Taisuo's intelligent temperature control instruments use high-performance microcomputer chips. Various parameters can be input through the panel keys, allowing for multiple control techniques such as two-position, three-position, PID, and self-tuning based on needs. These instruments are characterized by high reliability and strong anti-interference capabilities. They are widely used in industries such as rubber and plastic, food, printing, clothing, tobacco, and packaging machinery. There is also a great demand in industrial settings like textiles, chemicals, furnaces, heat treatment, metallurgy, and construction materials, where there is a need for temperature display, regulation, detection, and control.

Product Features and Performance

BKC® TAISUO'S OWN BRAND

- Input Signal: Universal input or selectable options such as thermocouples/thermistors/standard signals, with a range of -200°C to 1800°C in segments.

- Multiple control output methods are available, and the instrument can intelligently adjust according to the controlled object and working conditions, significantly managing energy consumption.

- The instrument samples quickly, has high resolution, high control accuracy, excellent performance, and offers various alarm methods to ensure operational safety.

- It is easy to operate, has good temperature control stability, strong anti-interference capabilities, and a long service life.

- Designed according to the DIN international standard, with various sizes available and non-standard customized development.



Product Outlook and Application

With the advancement of industrial intelligence, Taisuo Technology will keep pace with the times and continuously develop new technologies to meet the new demands of various application fields, providing society with high cost-performance temperature measuring instruments.



CHEMICAL INDUSTRY



LABORATORY



PLASTIC INDUSTRY

PART OF APPLICATION SCENARIOS