



BANNING

TEMPERATURE TRANSMITTER

TR220



BANNING

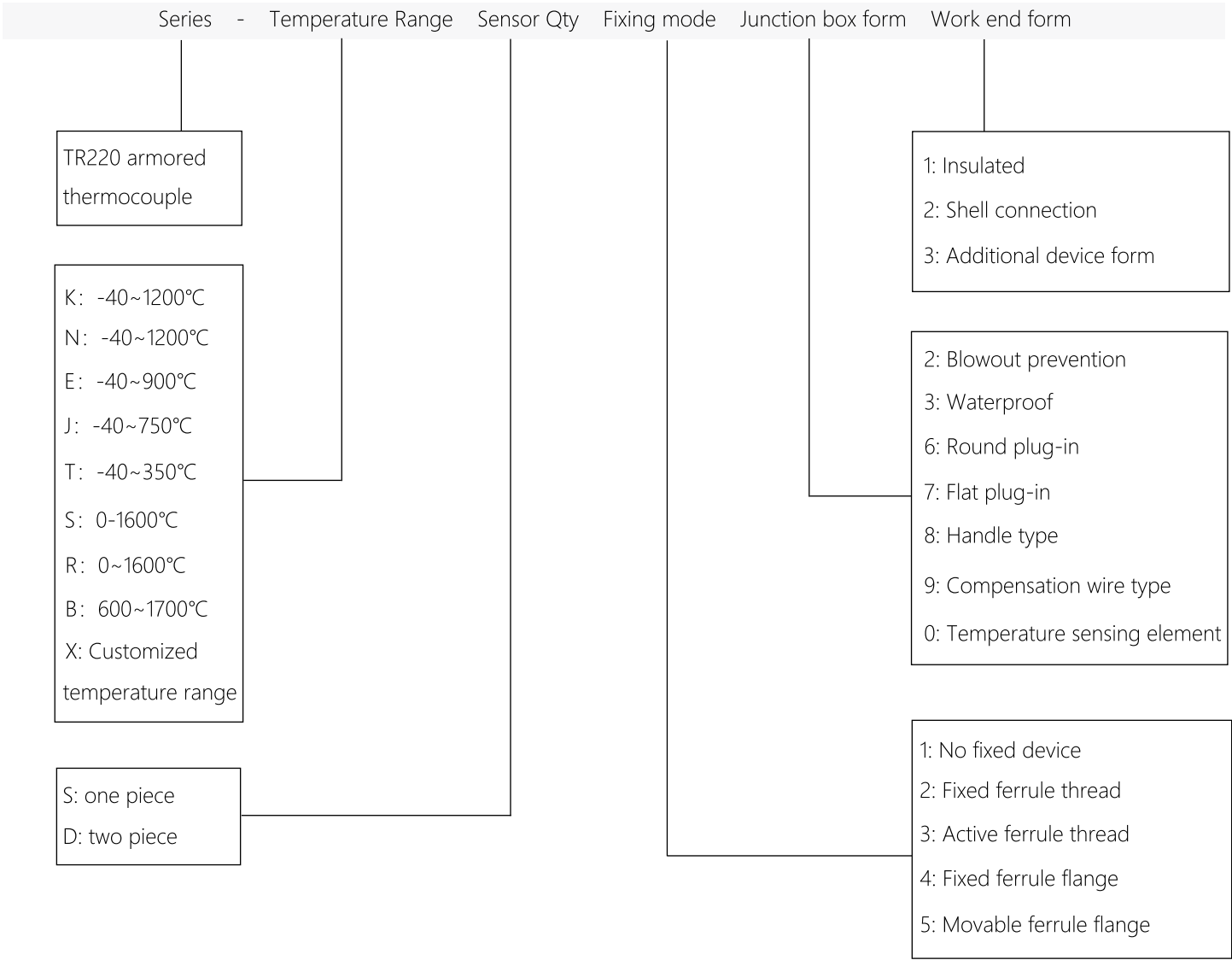
DESCRIPTION

The structure of TR220 armored thermocouple is made of conductor, insulating magnesium oxide and stainless steel protective tube after many times of drawing. Armored thermocouple products are mainly composed of junction boxes, terminals and armored thermocouples to form the basic structure, and are equipped with various installation and fixing devices.

CHARACTERISTICS

- Short thermal response time, reducing dynamic error
- Small diameter, unlimited length
- High measurement accuracy
- Imported thin film resistor elements, reliable and stable performance

NOMENCLATURE



FOR EXAMPLE: TR220-KS131

It indicates that the series is TR220 armored thermocouple, type K, temperature range -40~1200°C, one piece of sensor, no fixing device, waterproof, insulated.

APPLICATION

- Usually used with display instruments, recording instruments, electronic computers, etc. Directly measure the surface temperature of liquid, steam and gaseous media and solids in the range of 0°C~1300°C in various production processes.

MEASURING RANGE AND TOLERANCE

Model	Index number	Tolerance level			
		I		II	
		Temperature range	Tolerance value	Temperature range	Tolerance value
TP220-K	K	-40~+375	± 1.5°C	-40~+333	± 2.5°C
		375~1000	± 0.004 t	333~1200	± 0.0075 t
TP220-N	N	-40~+375	± 1.5°C	-40~+333	± 2.5°C
		375~1000	± 0.004 t	333~1200	± 0.0075 t
TP220-E	E	-40~+375	± 1.5°C	-40~+333	± 2.5°C
		375~800	± 0.004 t	333~900	± 0.0075 t
TP220-J	J	-40~+375	± 1.5°C	-40~+333	± 2.5°C
		375~750	± 0.004 t	333~750	± 0.0075 t
TP220-T	T	-40~+125	± 5°C	-40~+133	± 1.0°C
		125~350	± 0.004 t	133~350	± 0.0075 t
TP220-S	S	0~+1100	± 1.0°C	0~600	± 1.5°C
		1100~1600	± [1+0.003(t-1100)]	600~1600	± 0.0025 t
TP220-R	R	0~+1100	± 1°C	0~600	± 1.5°C
		1100~1600	± [1+0.003(t-1100)]	600~1600	± 0.0025 t
TP220-B	B	----	----	600~1700	± 0.0025 t
		----	----		

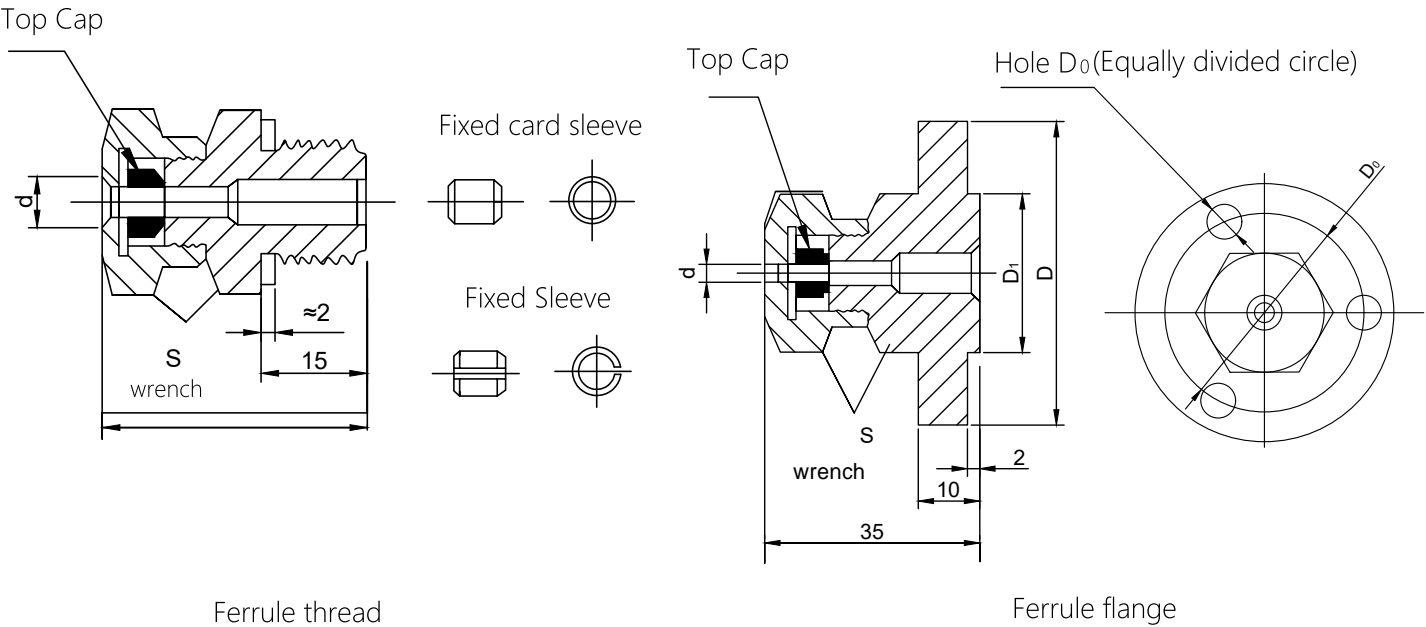
- Note: t is the absolute value of the detection temperature point, the unit is °C

NORMAL TEMPERATURE INSULATION RESISTANCE

- For the armored couple, the ambient temperature is 20± 15°C, the relative humidity is not more than 80%, and the test voltage is 500± 50V (DC). The insulation resistance between the electrode and the outer tube is ≥ 1000MΩ. That is, the insulation resistance of a 1m long sample is 1000MΩ, and the insulation resistance of a 10m long sample is 100MΩ.

THERMAL COUPLE DIAMRTER AND MATERIAL

Wire form		One Piece	Two Piece
Casing diameter		φ 2、φ 3、φ 4、φ 5、φ 6、φ 8	φ 4、φ 3
Index number	E、J、T	1Cr18Ni9Ti	1Cr18Ni9Ti
	K、N	1Cr18Ni9Ti GH3030	1Cr18Ni9Ti GH3030
	S、R、B	GH3030	GH3039

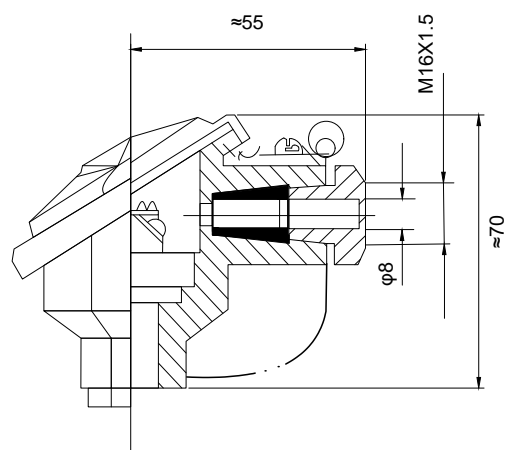


Code and size	Outer diameter of armored probe	
	φ 8、φ 6、φ 5	φ 4、φ 3、φ 2
M	M16*1.5	M12*1.5
S	22	19
D	φ 60	φ 50
D ₀	φ 42	φ 36
D ₁	φ 24	φ 20
S	φ 22	φ 19
d ₀	φ 9	φ 7

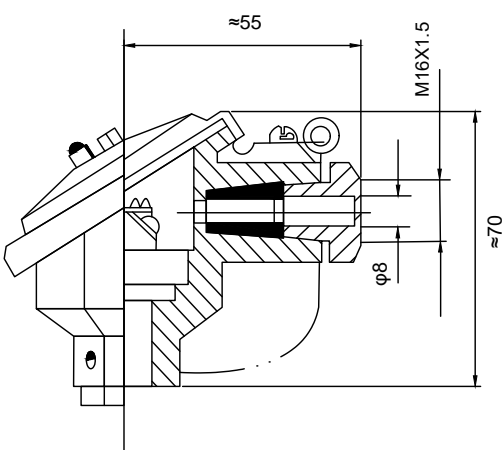
MEASURING TERMINAL STRUCTURE



JUNCTION BOX FORM



Waterproof

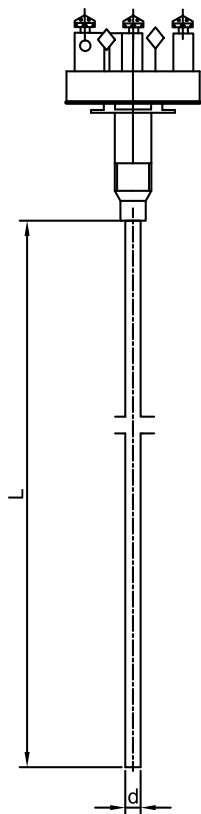


Blowout prevention

RECOMMENDED TEMPERATURE

Variety	Casing material	Outer diameter (mm)	Operating temperature (°C)	
			long-term use	Short-term use
NiCr-NiSi	1Cr18Ni9Ti	2.0	600	700
		3.0、 4.0、 5.0、 6.0、 8.0	800	900
	GH3030	2.0、 3.0	800	900
		4.0、 5.0	900	1000
		6.0、 8.0	1000	1100
NiCrSi-NiSi	1Cr18Ni9Ti	2.0	600	700
		3.0、 4.0、 5.0、 6.0、 8.0	800	900
	GH3030	2.0、 3.0	900	1000
		4.0、 5.0	1000	1100
		6.0、 8.0	1100	1200
	GH3030	2.0、 3.0、 4.0	1000	1100
		5.0、 6.0、 8.0	1100	1200
Nickel chromium-copper nickel	1Cr18Ni9Ti	2.0	500	600
		3.0、 4.0、 5.0	600	700
		6.0、 8.0	700	800
Iron-copper-nickel	1Cr18Ni9Ti	2.0	400	500
		3.0、 4.0、 5.0	500	600
		6.0、 8.0	600	750
Copper-copper-nickel	1Cr18Ni9Ti	2.0、 3.0、 4.0、 5.0	250	300
		6.0、 8.0	300	350
Platinum rhodium 10-platinum	GH3030	2.0、 3.0、 4.0	1000	1100
		5.0、 6.0、 8.0	1100	1200
Platinum rhodium 13-platinum	1Cr18Ni9Ti	2.0、 3.0、 4.0、 5.0	250	300
		6.0、 8.0	300	350
Platinum rhodium 30-platinum	Gh3039	2.0、 3.0、 4.0	1000	1100
		5.0、 6.0、 8.0	1100	1200

TEMPERATURE SENSING ELEMENT



Name	Index number	Temperature range °C	Specification
			D
NiCrSi-NiSi	N	0~1000	φ 3
NiCr-NiSi	K		φ 4
Nickel chromium-copper nickel	E	0~800	φ 5
Copper-copper-nickel	T	0~350	φ 6
Iron-copper-nickel	J	0~600	φ 8

DISCLAIMER

⚠ Warning

LIFE OR PROPERTY RISK

- Please ensure that this product has been designed as part of whole system and already considered related risks, make sure the product has the correct ratings and is designed based on the entire system. It must not be used when applications related to serious life or property damage risks.

Failure to follow this instruction can result in death or serious injury.

⚠ Warning

PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to follow this instruction can result in death or serious injury.

⚠ Warning

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to follow this instruction can result in death or serious injury.

Warranty/Remedy

Banning warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Banning's standard product warranty applies unless agreed to otherwise by Banning in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Banning during the period of coverage, Banning will repair or replace, at its option, without charge those items that Banning, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Banning be liable for consequential special, or indirect damages.**

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Banning assumes no responsibility for its use.

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