



# **BANNING**

## **TEMPERATURE TRANSMITTER**

### **TP220**



**BANNING**

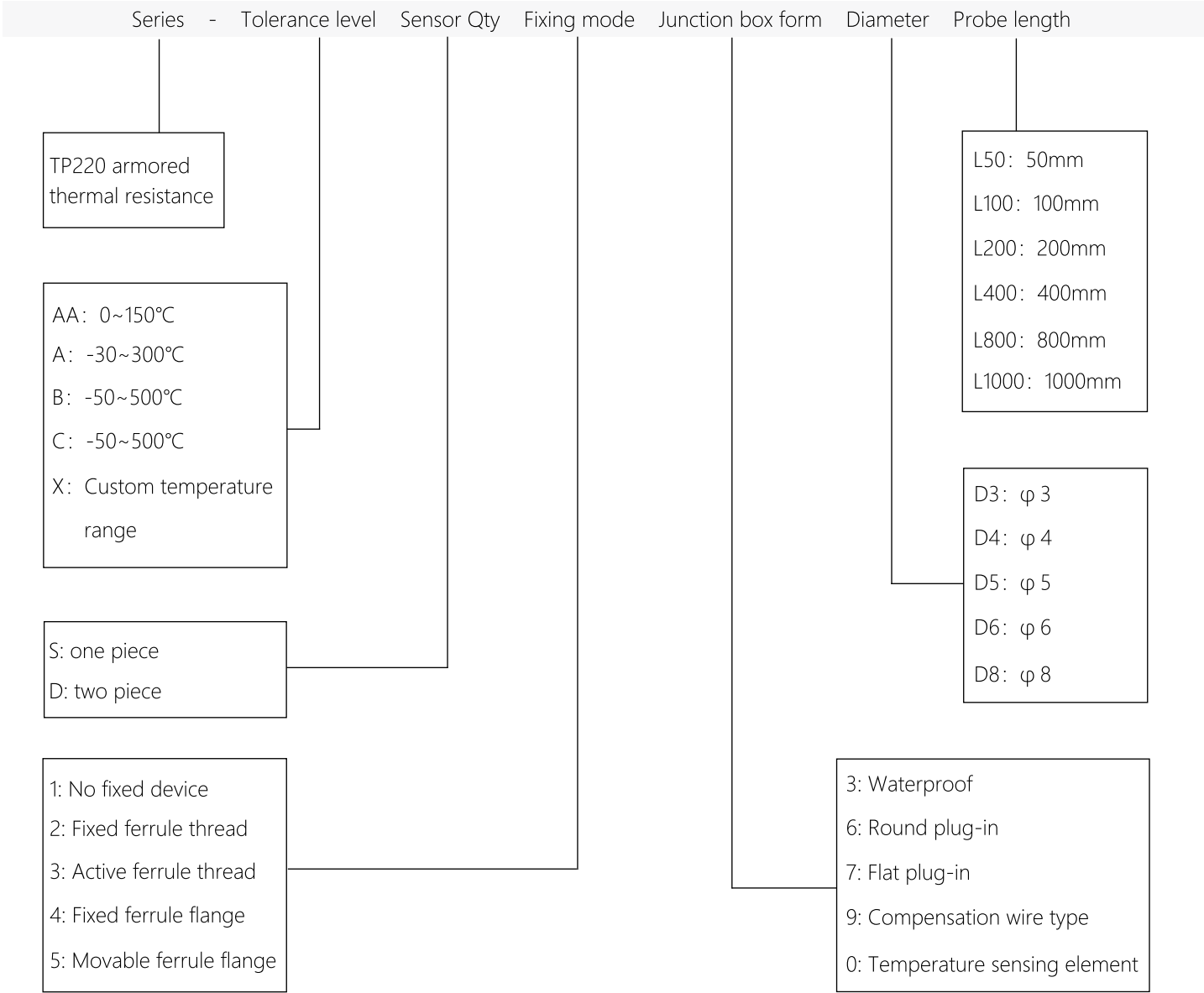
# DESCRIPTION

TP220 armored platinum resistance is a temperature sensor, which is smaller in diameter than assembled platinum resistance, easy to bend, and has good shock resistance. The outer protective cover is made of stainless steel and is filled with high-density oxide material insulators. Therefore, it has strong anti-pollution performance and excellent mechanical strength, and is suitable for installation in harsh environments.

# 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:** TP220-AS13D3L50

The series is TP220 armored thermal resistance, temperature range -30~300°C, single pair of even wire, no fixed device, waterproof type, probe diameter 3mm, probe length 50mm.

## APPLICATION

- Usually used with display instruments, recording instruments, electronic computers, etc. Directly measure the surface temperature of liquid, steam and gas medium and solid surface in the range of -200°C ~ 600°C in various production processes.

## EVEN WIRE DIAMETER MATERIAL

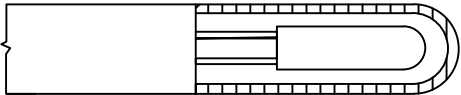
Pt sensor wire form	One piece Pt sensor	Two piece Pt sensor
Casing diameter	φ 3, φ 4, φ 5, φ 6, φ 8	φ 4, φ 5, φ 6, φ 8
Casing material	1Cr18Ni9Ti stainless steel	1Cr18Ni9Ti stainless steel

## TOLERANCE LEVEL

Index number	Tolerance arithmetic	Effective temperature range/°C		Tolerance °C
		Wire wound components	Membrane element	
Pt100	AA	-50~250	0~150	± (0.1+0.0017  t  )
	A	-100~450	-30~300	± (0.15+0.002  t  )
	B	-196~600	-50~500	± (0.3+0.005  t  )
	C	-196~600	-50~600	± (0.6+0.01  t  )

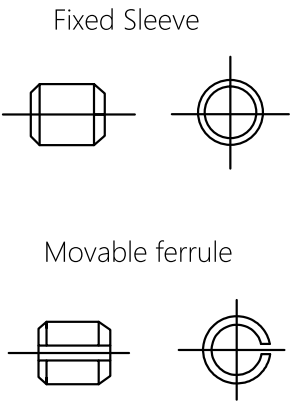
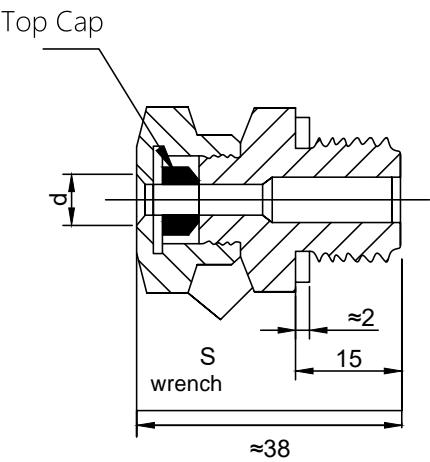
- | t | = absolute value of temperature, in °C

## THERMAL RESPONSE TIME

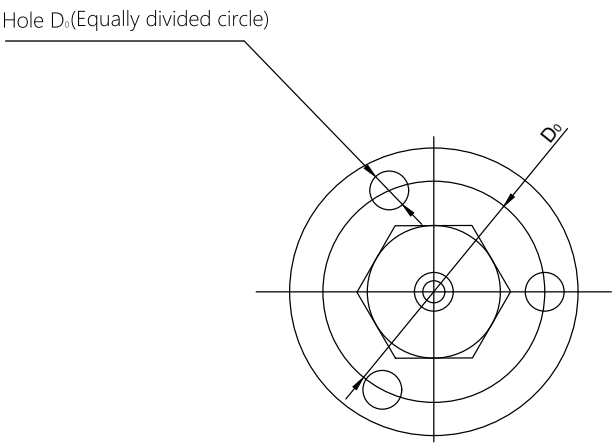
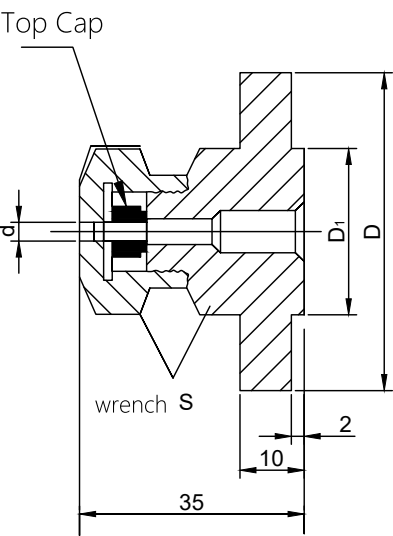
Casing diameter	Thermal response time S	Measuring terminal structure
φ 3	≤ 3	
φ 4	≤ 5	
φ 5	≤ 8	
φ 6	≤ 12	
φ 8	≤ 15	

INSTALLATION METHOD (mm)

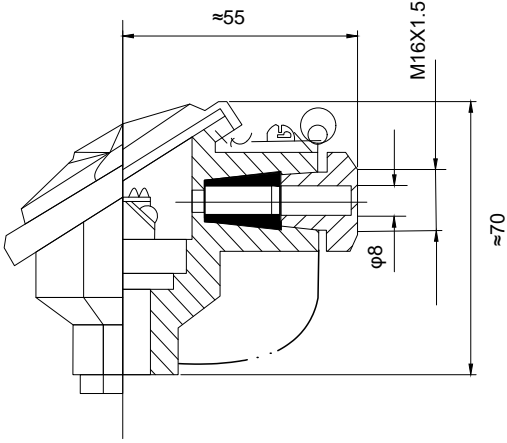
Code and size	Ferrule threaded joint	
	$\varphi$ 8、 $\varphi$ 6、 $\varphi$ 5	$\varphi$ 4、 $\varphi$ 3
M	M16*1.5	M12*1.5
S	22	19



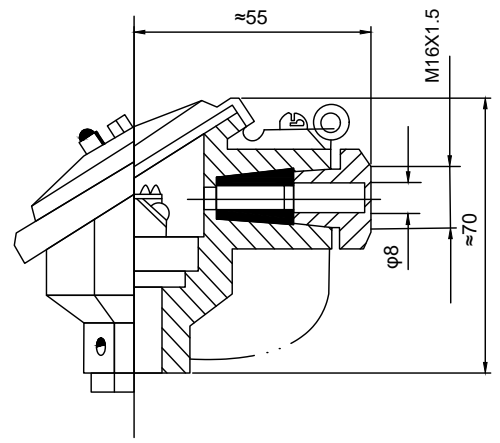
Code and size	Ferrule flange	
	$\varphi$ 8、 $\varphi$ 6、 $\varphi$ 5	$\varphi$ 4、 $\varphi$ 3
D	$\varphi$ 60	$\varphi$ 50
D <sub>0</sub>	$\varphi$ 42	$\varphi$ 36
D <sub>1</sub>	$\varphi$ 24	$\varphi$ 20
S	$\varphi$ 22	$\varphi$ 19
d <sub>b</sub>	$\varphi$ 9	$\varphi$ 7



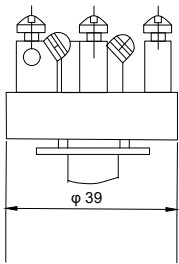
## JUNCTION BOX FORM (mm)



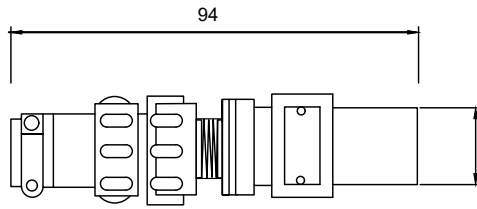
Waterproof junction box (IP67)



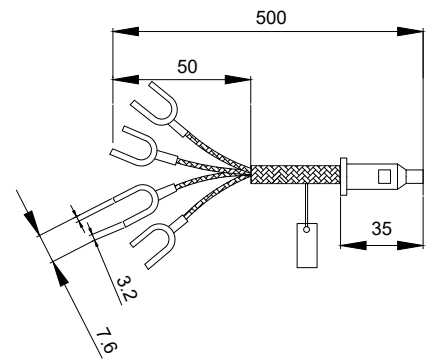
Splash-proof junction box (IP65)



## Simple terminal

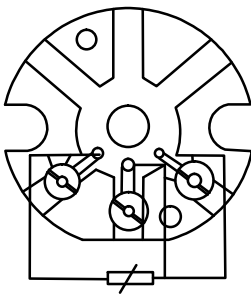


## Socket terminal

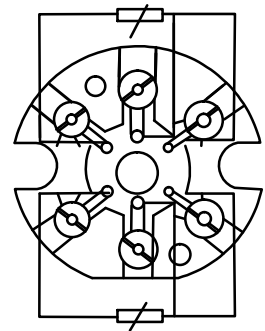


With connecting wire

## WIRING



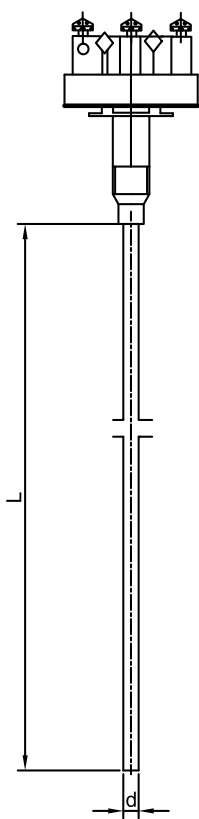
## Single wiring method



## Double wiring method



# TEMPERATURE SENSING ELEMENT



Name	Index number	Temperature measurement range °C	Specification
			D
Single platinum thermal resistance	Pt100	Grade A -30~300	φ 3 φ 4
Double platinum thermal resistance		Grade B -50~500	φ 5 φ 6

# 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

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