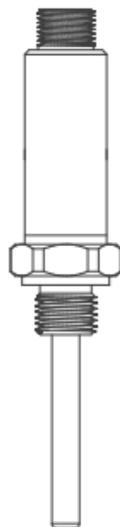


- Sensor and controller ——
- Flow
  - pressure
  - temperature
  - level
  - position

**KATU** 卡图

**Operation instruction**  
**Compact temperature transmitter**  
**TM112 Series**



## ————— **Safety statement** —————

- Before installing this device, please read this document to ensure that the product is suitable for your application and is not limited in any way;
- Failure to follow operating instructions or technical documentation may result in personal injury or property damage;
- Check compatibility of the product material with the medium under test in all application ranges;
- The equipment is only used as the tested medium, and it must only be ensured that the equipment is correctly used to ensure long-term stable operation and that the tested medium will not cause damage to the tested part of the product;

! The responsibility for determining whether the measurement sensor is suitable for the application lies with the operator, and the manufacturer accepts no responsibility for the consequences of improper use by the operator. Improper installation and use of the sensor results in invalid claims under warranty.  
Flow sensors monitor the medium flow of fluids

**Precautions: Beware of personal injury, overpressure danger!**

## Product introduction

Features.....	01
The product application.....	01
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## Wiring diagram

Wiring diagram.....	02
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## Dimensional drawing

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## installation

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## product introduction

### Functional characteristics

- Compact design, strong shock resistance, fast response
- Sensor direct output signal: Pt100/ Pt1000, 2, 3 or 4 wires;  
Or integrated transmitter output analog signal 4... 20 mA
- Independent parameter Settings for integrated transmitters that can be easily configured via Catu's free PC software
- Sensor element Class A accuracy class, according to IEC 60751

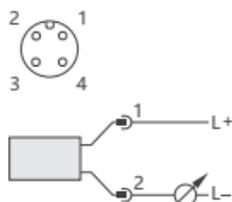
### Product application

- Hygienic application
- The food and beverage industry  
Pharmaceutical industry, active agent production  
Biotechnology and life Sciences Engineering  
Dairy, brewery  
Machinery, equipment and tank manufacturing  
Propulsion technology, hydraulic equipment

### Technical parameter

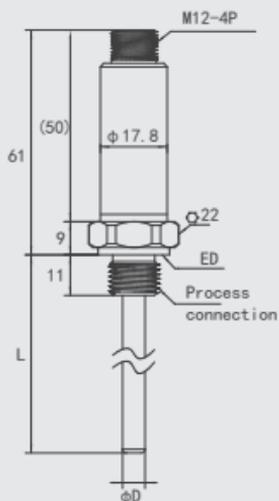
◊ Measuring range:	Custom
◊ Linearity:	< 0.5%
◊ Accuracy:	±0.2K+0.2% full scale
◊ Resolution:	0.1 K.
◊ Pressure resistance:	Diameter 6 type probe 40bar, Diameter 8 type probe 100bar
◊ Temperature effect:	0.1 K / 10 K
◊ Response time:	t50,2.3 seconds /t90,5.4 seconds
◊ Working voltage:	12... 30Vdc
◊ Electrical protection:	Reverse pole, overload protection
◊ Sensor:	PT100
◊ Ambient temperature:	25... 80 °C
◊ Protection level:	IP65
◊ material	
Shell material:	Stainless steel
Liquid contact material:	Stainless Steel 304
◊ Electrical connection:	Terminal connection

## Wiring diagram

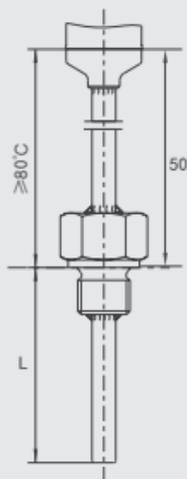


contact pin	join
1	24VDC
2	Temperature analog signal(4-20mA)

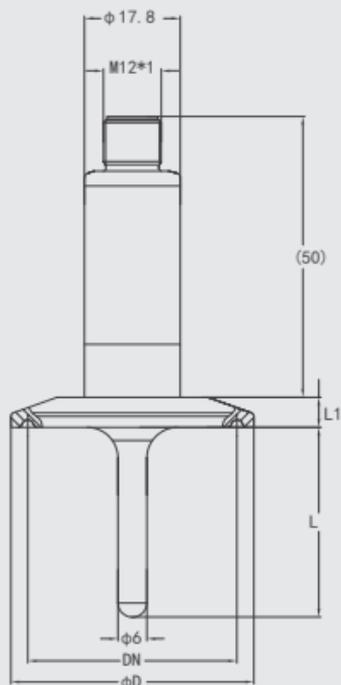
## Size drawing (mm)



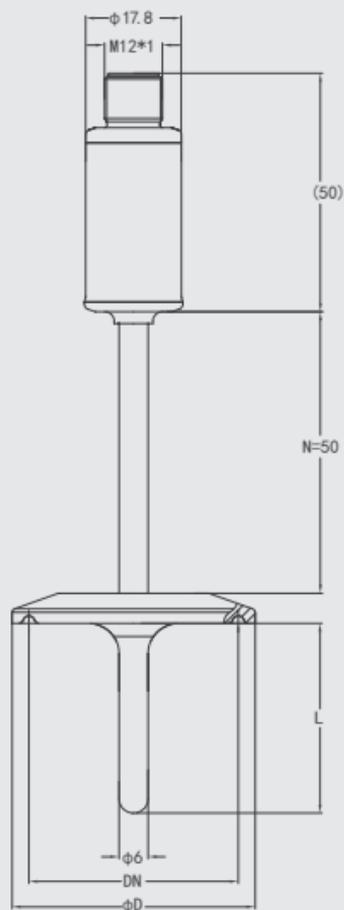
■ Normal form  
(-20~100°C)



■ High low temperature  
(-200~250°C)



■ Hygienic type  
(-20~100°C)



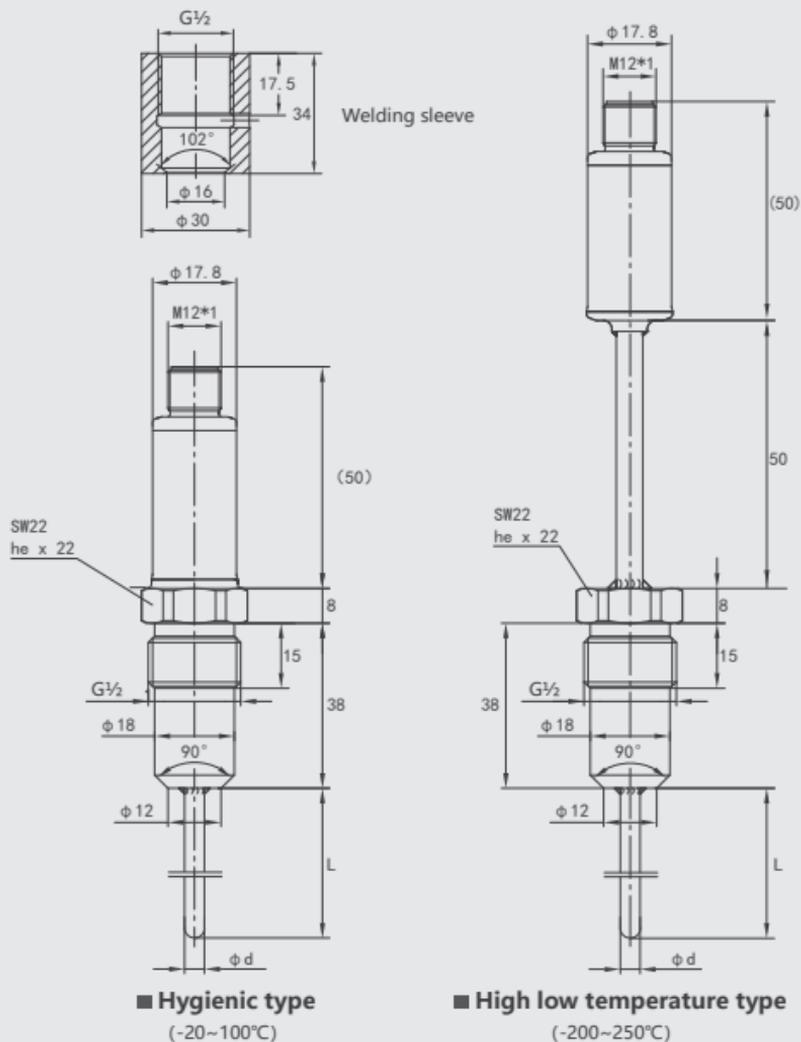
■ High low temperature type  
(-200~250°C)

## Sanitary size table

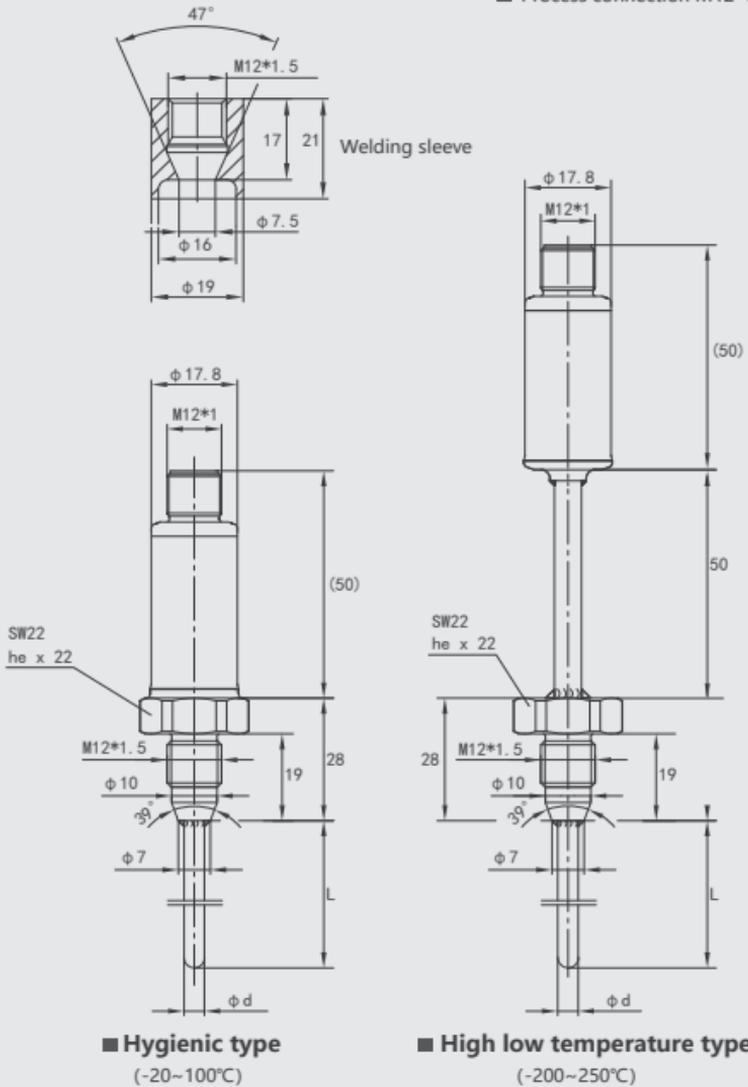
Process connection	Standard width (mm)	PN (MPa)	dimension (mm)		weight (Kg)
			Ø D	L2	
"DIN 32676 Piping in accordance with DIN 11866 Class A"	DN 10 ... 20	2.5	34	6.35	0.2
	DN 25 ... 40	2.5	50.5	6.35	0.3
	DN 50	1.6	64	6.35	0.4
"DIN 32676 Piping in accordance with DIN 11866 Class B"	13.5 ... 17.2	2.5	25	4.75	0.2
	21.3 ... 33.7	2.5	50.5	6.35	0.3
	42.4 ... 48.3	1.6	64	6.35	0.3
"DIN 32676 Piping according to DIN 11866 Class C"	½" ... ¾"	2.5	25	4.75	0.2
	1" ... 1 ½"	2.5	50.5	6.35	0.3
	2"	1.6	64	6.35	0.4
chuck	½" ... ¾"	1.38	25	4.75	0.2
	1" ... 1 ½"	1.38	50.5	6.35	0.3
	2"	1.38	64	6.35	0.4
	2 ½"	1.38	77.5	6.35	0.5
	3"	1.38	91	6.35	0.6
ISO 2852	DN 12 ... 21.3	1.6	34	6.35	0.2
	DN 25 ... 38	1.6	50.5	6.35	0.3
	DN 40 ... 51	1.6	64	6.35	0.4

## Tapered sanitary thread joint process connection

■ Process connection G 1/2



■ Process connection M12\*1.5



## Install



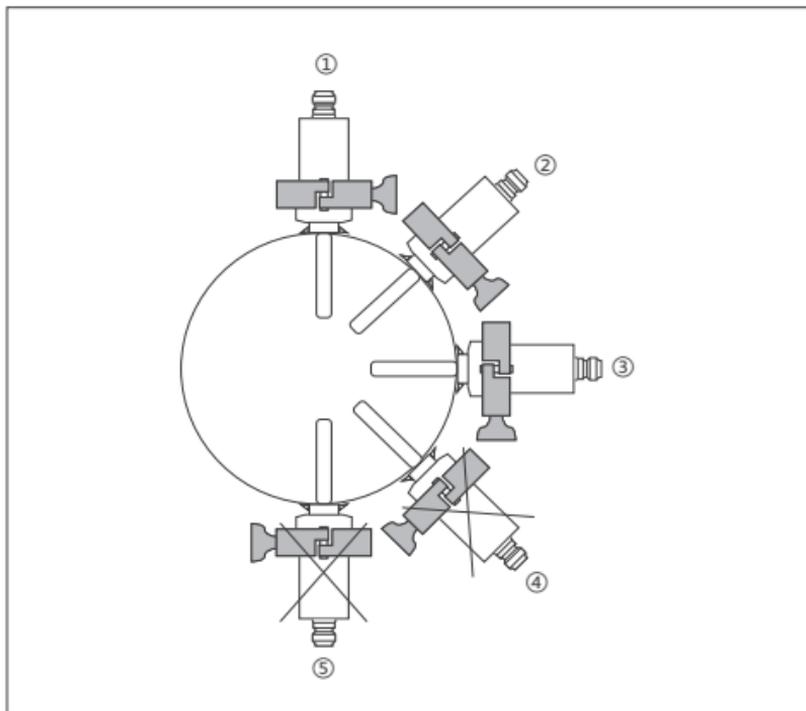
Look out

High pressure media or high temperature media may leak from the system during installation or in case of mechanical failure.

- ▶ Risk of injury or burn caused by stress.
- ▶ When installing, ensure that the system is not under any stress.
- ▶ Ensure that no media leaks from the installation position.

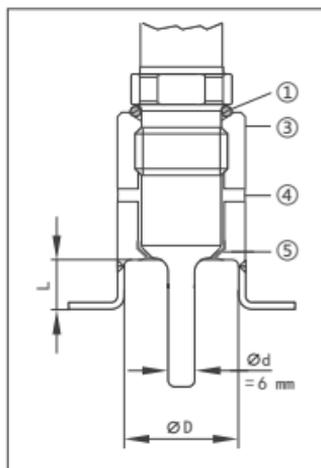
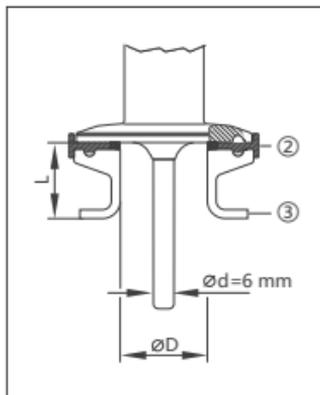
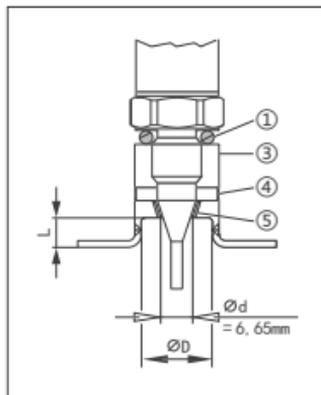
### Standard mounting

- ▶ The sensor position must be careful to ensure that the installation adapter is self-discharging: Do not install the device in positions 4 and 5.



## Sanitary installation

- ▶ When properly installed, the sensor is suitable for CIP (Cleaning in situ).
- ▶ Follow the application limits (temperature and material resistance) according to the data sheet.
- ▶ Use a self-discharge device.
- ▶ The leak must be clearly visible and, for vertical pipes, must be mounted facing down.
- ▶ For any structure in the tank, it must be possible to perform direct water jet cleaning as well as clean without dead corners.
- ▶ Follow the dimensions in the image below to avoid dead spots that cannot be cleaned effectively:  $L < (D-d)$



- 1: Sealing ring between housing and pipe connection (E43911 / E43915)
- 2: Sealing ring
- 3: adapter
- 4: Leak hole
- 5: PEEK sealing ring (E43911 / E43915)

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