

# Temperature Transducer Data Sheet

## Flameproof Temperature Transducer

### Model: CWR-207

#### Introduction

◆CWR-207 is integrated temperature transmitter uses PT100, N, K, J and other temperature sensing components, through the circuit processing module to convert the resistance signal into a standard 4-20mA current signal, widely used in chemical automatic control systems, and transmitted to Indicators, recorders and regulators for monitoring, regulating and controlling industrial systems. It not only saves expensive compensation wires cost, but also improves the anti-interference ability of signals during long-distance transmission. The transmitter is high precision, low power consumption, wide temperature range, stable and reliable operation, and is resistant to shock and moisture due to the silicone rubber sealing structure, which is suitable for use in harsh field environments.

#### Application

In chemical plant, there are various flammable and explosive chemical gases around the production site. It's unsafe and easy to cause environmental gas explosion if use common thermocouples, it needs to use flameproof thermocouple as temperature measurement instrument in these cases.

#### Explosion-proof Principle

It uses the gap flameproof principle and designs the sufficient strength junction box and other part. All the components which can cause a spark, arc and dangerous temperature are sealed in the junction box. When it happens explosion in the cavity, the joint side can make flameout and cool, to prevent the flame and temperature after explosion from spreading out of the cavity.

#### Features

- ◆ Easy assembly and easy replacement
- ◆ Good shakeproof and high precision
- ◆ Wide measuring range (-200 ° C ~ 1600 ° C)
- ◆ Fast thermal response time and long service life
- ◆ High mechanical strength and good pressure resistance
- ◆ Suitable Explosion proof area





#### Main technical indexes of thermocouple

Material	Type	Temperature Range	Error/ t
Ni/Ch-Ni/Si	K	800-1600℃	±2.5 or ±0.75%t
Ni/Ch-Cu	E	600-800℃	±2.5 or ±0.75%t
Cu	T	350-400℃	±2.5 or ±0.75%t
Fe-Cu	J	600-700℃	±2.5 or ±0.75%t
Pt	PT100	-200-600℃	±1 or ±0.75%t
Cu	CU50	-50~100℃	±2.5 or ±0.75%t

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Technical Characteristics	
Model	CWR-207
Temperature Sensing element	N, R, K, E, J, T, PT100, CU50
Temperature range	-200°C~0°C~1600°C
Output:	mV/V, 4-20mA, HART optional
Local display:	LCD optional
Power supply:	10VDC (mV/V), 24VDC (4-20mA /HART)
Accuracy class:	Class A: +/- (0.15+0.2%t); Class B: +/- (0.3+0.5%t)
Electrical connector:	waterproof, explosion-proof
Process connection:	M20*1.5, G1/2, G1/4, flange, customized
Insert tube diameter (D):	6mm, 8mm, 12mm, customized
Insert tube length (L):	8mm<L<800mm
Insert tube material	SS304, SS316L optional

Wiring diagram								
 4~20mA Output	 PT100 Output	Terminal	4-20mA (2 wires)	PT100(3 Wires)				
		A+	P+	A+(Red)				
		A-	P-	A- (Red)				
		B	Common	B (White)				
Ordering Guide								
Model	Sensing element	Temperature range	Output	Insert Diameter	Insert Length	Process connection	Accuracy	Others
CWR-207	--	--	--	--	--	--		--
Example: CWR-207-PT100-(-50~200)°C-4-20mA-8-50-M20*1.5-A								