



TIANSHUI HUATIAN SENSOR

CWB110000~810000 SERIES TEMPERATURE TRANSMITTER



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CWB510201

1 Introduction

CWB series temperature transmitters use semiconductor temperature sensors, platinum resistances, etc. as temperature sensitive components, and output standard industrial signals after temperature compensation, digital circuit correction and signal conditioning. Each type of product has undergone careful design, component screening, process verification and curing, cyclic loading and aging, environmental simulation testing and other processes to ensure that each product is stable and reliable.



2 Features

- compact size, easy to install
- high stability, low drift
- a variety of structures to choose from
- it can be used in various industrial occasions and has strong versatility

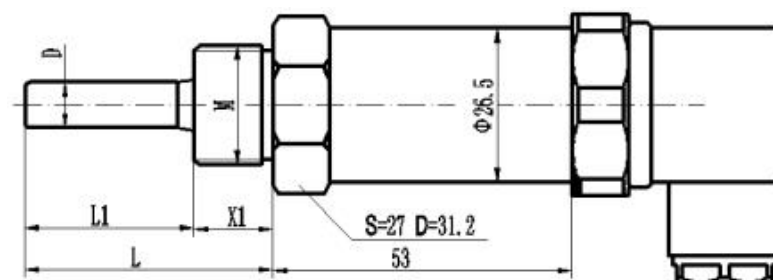
3 Main uses

With its excellent accuracy and reliability, CW series temperature transmitters are used for temperature measurement in many occasions. Especially in railway locomotives, coal mines, oil fields, chemicals, civil explosions and other industries, accuracy and reliability have been verified for a long time.

4 Technical indicators

range (°C)	-60~450 (optional range)		
accuracy (°C)	0.25 (customized)	0.5	1.0
long-term stability (%FS/year)	≤0.25	≤0.5	≤1.0
operating voltage (VDC)	+15~+30 (calibration value is +24)		
output signal	(4mA~20mA) 、 0~10V、 RS485、 I ² C		
working environment temperature (with header) (°C)	-30~+60		
load resistance (Ω) (4mA~20mA)	R=(U-15)/0.02-RD among them: U is the power supply voltage RD is the internal resistance of the cable		
response time (10%~90%) s	20 (typical value)		
measuring medium	fluid compatible with 304 and 316L		
shell material	304、 316L		
interface	304, 316L optional		
protection level	IP65		

5 Transmitter size

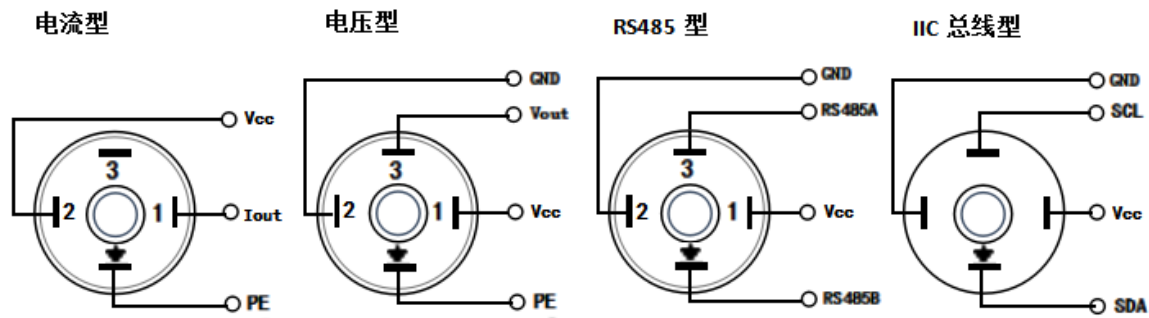


尺寸 D	长度L	尺寸 D	长度L	尺寸 D	长度L
M22×1.5	15	M16×1.5	15	1/2NPT	18
G 1/2	15	M14×1.5	15	1/2PT	18
M20×1.5	15	G1/4	15	3/8 NPT	15
M18×1.5	15	M12×1	15	3/8 PT	15
G3/8	15	M10×1	12	1/4 NPT	15

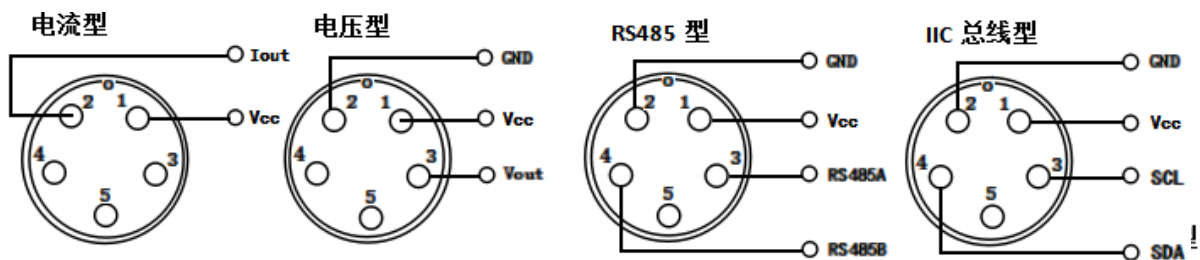
Recommended optional connector size for CW series transmitter

6 Electrical connection

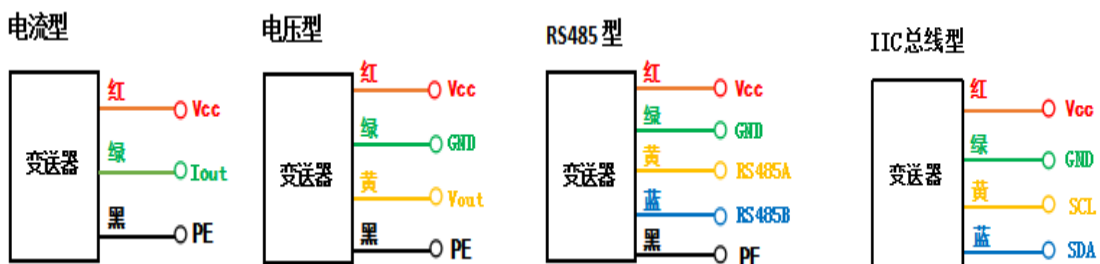
6.1 Housman socket



6.2 Aviation socket

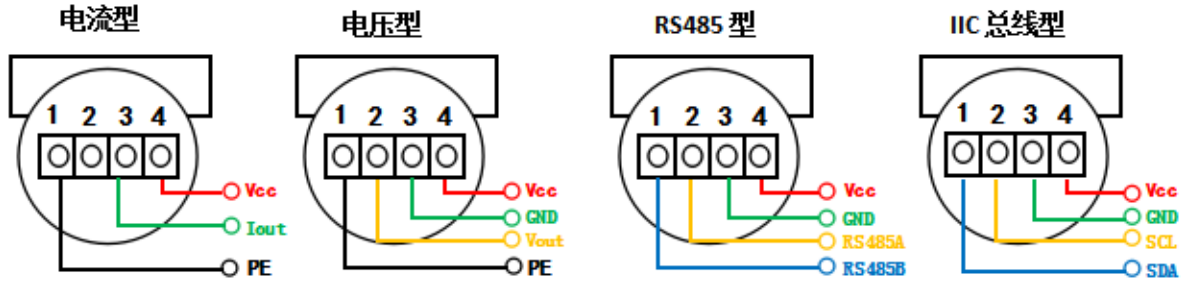


6.3 Direct cable outlet





6.4 Industrial terminal



7 Order guide

7.1 Model characteristics and appearance

CWB110000 series		
Model	Features	Pattern
CWB110101	<ol style="list-style-type: none"> Horsman connector; Standard appearance; Without heat sink; -50°C~80°C. 	
CWB110202	<ol style="list-style-type: none"> Horsman connector; Standard appearance; With 3 heat sinks; -50°C~150°C. 	
CWB210000 series		
CWB210101	<ol style="list-style-type: none"> Waterproof connector; Standard appearance; Without heat sink; -50°C~80°C. 	
CWB210202	<ol style="list-style-type: none"> Without heat sink; Standard appearance; With 3 heat sinks; -50°C~150°C. 	
CWB310000 series		

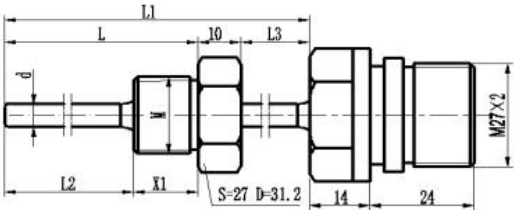
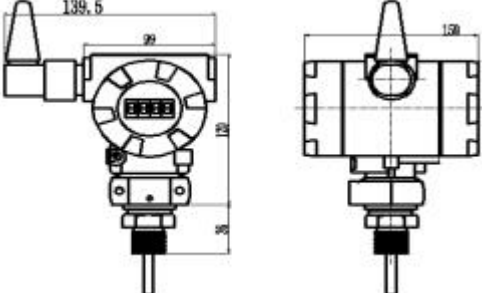
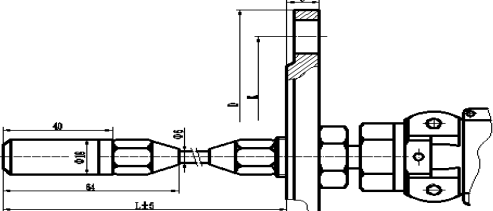
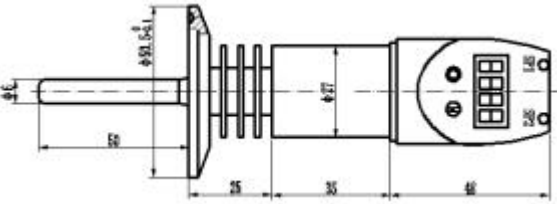
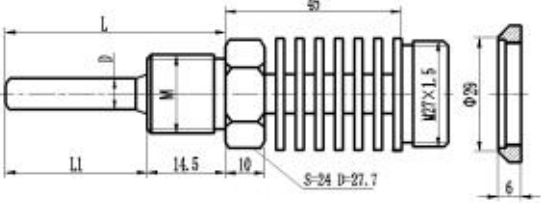
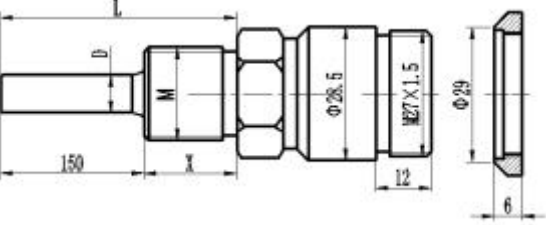


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<p>CWB310101</p>	<ol style="list-style-type: none"> 1、Aviation connector; 2、Standard appearance; 3、Without heat sink; 4、-50°C~80°C. 	
<p>CWB310202</p>	<ol style="list-style-type: none"> 1、Without heat sink; 2、Standard appearance; 3、With 3 heat sinks; 4、-50°C~150°C. 	
<p>CWB310222</p>	<ol style="list-style-type: none"> 1、Aviation connector; 2、Standard appearance; 3、Without heat sink. 	
<p>CWB410000 series</p>		
<p>CWB410120</p>	<ol style="list-style-type: none"> 1、Aviation connector; 2、Standard appearance; 3、Without heat sink. 	
<p>CWB410121</p>	<ol style="list-style-type: none"> 1、Aviation connector; 2、Standard appearance; 3、Without heat sink. 	
<p>CWB410122</p>	<ol style="list-style-type: none"> 1、Waterproof level outlet; 2、Waterproof grade IP68. 	
<p>CWB510000 series</p>		
<p>CWB510201</p>	<ol style="list-style-type: none"> 1、Equipped with BP11A/C shell; 2、Without heat sink; 3、-50°C~150°C. 	

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<p>CWB510402</p>	<ol style="list-style-type: none"> 1、 Equipped with BP11A/C shell; 2、 Without heat sink; 3、 $200^{\circ}\text{C} \leq X \leq 400^{\circ}\text{C}$. 	
<p>CWB510224</p>	<ol style="list-style-type: none"> 1、 Zigbee/Lora wireless communication protocol; 2、 LED, LCD display optional; 3、 Networking for users. 	
<p>CWB510225</p>	<ol style="list-style-type: none"> 1、 Stainless steel housing; 2、 Without heat sink; 3、 $-50^{\circ}\text{C} \sim 500^{\circ}\text{C}$ (Optional) . 	
<p>CWB810000 series</p>		
<p>CWB810220</p>	<ol style="list-style-type: none"> 1、 With alarm function; 2、 Digital head with LED bevel; 3、 With 3 heat sinks; 4、 $-50^{\circ}\text{C} \sim 150^{\circ}\text{C}$. 	
<p>CWB810321</p>	<ol style="list-style-type: none"> 1、 Waterproof connector; 2、 With 6 heat sinks; 3、 $-50^{\circ}\text{C} \sim 200^{\circ}\text{C}$. 	
<p>CWB810222</p>	<ol style="list-style-type: none"> 1、 Waterproof connector; 2、 Standard appearance; 3、 Without heat sink; 4、 $-50^{\circ}\text{C} \sim 150^{\circ}\text{C}$. 	



7.2 Selection Guide

Order model

CYB81X ₁ X ₂ X ₃ X ₄		temperature transmitter	
range(°C)		-60~450 (optional range)	
	code name	supply voltage	
		U ₁	24VDC
		U ₂	12VDC
	U ₃	other power supply methods	
	code name	output signal	
		E ₁	4mA~20mADC
		V ₃	0VDC~10VDC
		V ₅	other power supply methods
		R ₄	RS485 communication Interface
		H	HART® protocol communication
	II	I ² C protocol communication	
	code name	shape interface	
electrical Interface			
mechanical interface			
Horsman socket (J1)		G ¹ / ₄	
Aviation socket (J2)		G ¹ / ₂	
others (J5)		others (direct label)	
code name	additional features		
	M ₁	4-digit LCD digital display header	
	M ₂	4-digit LED digital display header	
	i	intrinsically safe explosion-proof type ExialICT6	
QT	other functions		
CYB810321	U ₁	V ₃	J1G ¹ / ₂
Complete model specifications			

CYB810321 (-50~200) U₁ V₃ J1G¹/₂ indicates the product model CYX810321, measuring range (-50°C~200°C), 24V power supply, 0~10V output, Horsman connector, G¹/₂ threaded connector.

8 Precautions

- 8.1 Please pay attention to the compatibility of the tested medium and the shell when selecting the model. If you are not sure, please refer to the medium compatibility table on the back cover of the manual or consult our company.
- 8.2 Please indicate the appropriate temperature range and accuracy requirements when ordering.
- 8.3 When ordering a transmitter product with a meter, the power supply of the transmitter should not be less than 15VDC.
- 8.4 When selecting digital display products, the working environment temperature range of the display head is -30°C~60°C.



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8.5 Sealing measures are taken at the interface connection to prevent leakage of pressurized liquid and cause pollution or accidents.

8.6 When using in a dangerous environment such as flammable and explosive, please install a safety isolation barrier as required, and the cable connection must be sealed and reliable. Tighten the junction box cover before energizing work to ensure that the inner cavity of the junction box is isolated from the environment. When cleaning, repairing or modifying parameters, you must completely power off, remove the transmitter, and move to a safe environment for disposal. Live operation on site is strictly prohibited.