



TIANSHUI HUATIAN SENSOR

CYB0500 SERIES PRESSURE TRANSMITTER



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CE

CYB0511

1 Introduction

According to the application characteristics of different industries, CYB0500 series pressure transmitter carefully selects high reliable silicon piezoresistive, ceramic capacitor, sapphire, sputtered film pressure sensor as sensitive core. After temperature compensation, digital circuit correction and signal conditioning, it outputs standard industrial application and networking signal. The production process continues the rigorous work style and fine process control spirit of the enterprise for 50 years. Each type of product has gone through the process of careful design, component selection, process verification and solidification, cyclic loading and stress relief, aging, environmental simulation test, etc., to ensure the stability and reliability of each product.



2 Features

- Field display, multiple output signal selection
- High stability and low drift
- Explosion proof, IP66 protection
- It can be used in polluted, humid, flammable and explosive environment

3 Main uses

With its excellent accuracy and reliability, CYB0500 series pressure transmitter is widely used in many kinds of pressure measurement users, especially in coal mine, oil field, chemical industry, civil explosion, environmental protection, medicine, water affairs, shipping and other industries, Huatian brand pressure transmitter has been widely recognized by customers.

4. Technical indicators

Range	MPa	-0.1MPa...0kPa~10kPa...100MPa		
Form of pressure		G、A、S		
Output signal (mA)		4 mA ~20 mA (HART protocol can be superimposed), RS485 (4 mA~20 mA signal can be output at the same time) 0~5V (0 ~10) three wire system		
Accuracy level		0.1(customized)	0.25	0.5
Nonlinear (FS%)		≤0.1	≤0.2	≤0.4
Hysteresis, repeatability (FS%)		≤0.05	≤0.05	≤0.1
Zero and sensitivity temperature drift (FS / °C)		≤0.015	≤0.03	≤0.05
Long term stability (FS / year)		≤0.1	≤0.2	≤0.5
Operating voltage (VDC)		+15~ + 30 (calibration value is + 24)		
Field display		4Bit LED or LCD		
Compensation temperature (°C)		0~+50 (≤200kPa) , -10°C~70°C (>200kPa)		



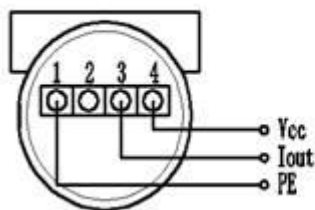
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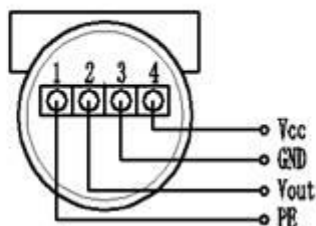
Operating temperature (°C)	-40 ~ + 85, - 20 °C ~ 60 °C (explosion proof)
Overload capacity (%)	≤200 (<10MPa) ; ≤150 (≥100MPa)
Load resistance (Ω)	$R = (U - 12.5) / 0.02 - R_D$ Where: u is the power supply voltage and RD is the internal resistance of the cable
Response time (10% - 90%) ms	≤1
Measuring medium	Fluids compatible with 304, 316L or ceramics
Diaphragm material	316L, titanium alloy or ceramic are available
Shell material	3046063 aluminum alloy
Interface	304326I optional
Explosion proof grade	Intrinsically safe: ex D IIC T5 GB
Protection level	IP66

5 Connection

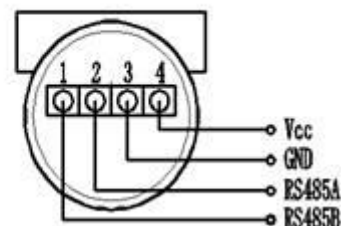
Current type



Voltage type



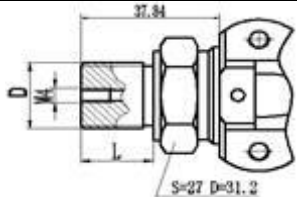
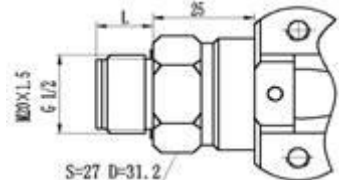
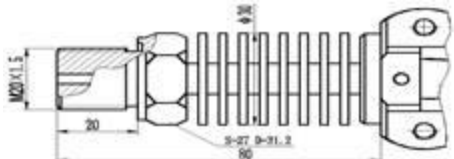
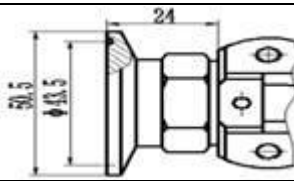
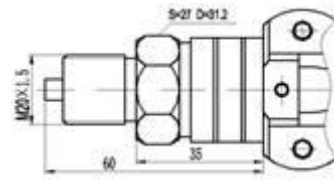
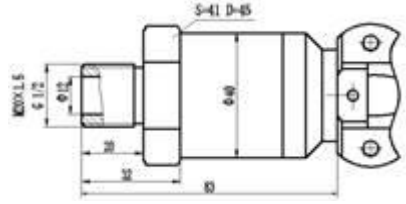
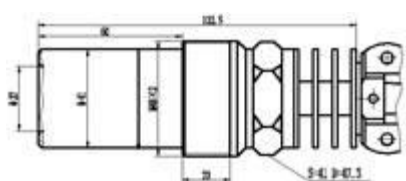
RS485 type



6 Order Guide

6.1 Model characteristics and appearance

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Model	Features	Outline drawing
CYB0511	<ol style="list-style-type: none"> Optional range: - 0.1MPa...0kPa~10kPa...100MPa The whole series of thread can be customized Pressure interface material can be customized Shock resistant design, damping is available 	
CYB0514	<ol style="list-style-type: none"> The pure flat membrane pressure joint meets the health requirements of medicine and food industry Optional range: - 0.1MPa...0kPa10kPa...10MPa M20 × 1.5 or G1 / 2 thread, interface material 316L 	
CYB0515	<ol style="list-style-type: none"> The measured medium temperature is - 40 °C ~ 150 °C Optional range: - 0.1MPa0kPa~10kPa...40MPa M20 × 1.5 or G1 / 2 thread, interface material can be customized 	
CYB0516	<ol style="list-style-type: none"> The clamp type joint can meet the requirements of vacuum, medicine and food industry Optional range: - 0.1MPa...0kPa~10kPa...5MPa 	
CYB0521	<ol style="list-style-type: none"> Sapphire pressure transmitter The measured medium temperature is - 50 °C - 250 °C (> 150 °C with heat dissipation joint) Optional range: - 0.1MPa...0kPa~10kPa...40MPa M20 × 1.5 or G1 / 2 thread is optional, and the interface material is stainless steel 	
CYB0531	<ol style="list-style-type: none"> Ceramic capacitance pressure transmitter The measured medium temperature is - 40 °C - 80 °C Optional range: ± 2KPa ~ 10KPA7MPa It is suitable for ceramic and stainless steel without corrosive medium The shell material can be customized 	
CYB0535	<ol style="list-style-type: none"> Ceramic capacitance pressure transmitter The measured medium temperature is - 40 °C - 80 °C It is suitable for ceramic and stainless steel without corrosive medium Pressure sensitive film exposed, suitable for viscous media 	

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6.2 Selection Guide

CYB05X3X4		Type of pressure transmitter	
	Range		The measuring range is -0.1MPa...0MPa~0.01MPa...100MPa
	Xxn		In kPa, the first two digits XX value is multiplied by the n-square of 10, and N is the third digit value.
		Code name	Form of pressure
		G	Gauge pressure type
		A	Absolute pressure type
		D	Differential pressure type
		S	Sealed gauge pressure type
		Code name	Supply voltage
		U ₁	24VDC
		U ₂	12VDC
		U ₃	5VDC
		U ₄	3VDC (3.3VDC)
		U ₅	Other power supply modes
		Code name	output signal
		E ₁	4mA~20mADC
		E ₂	0mA~10mADC
		E ₃	0mA~20mADC
		V ₁	1VDC~5VDC
		V ₂	0VDC~5VDC
		V ₃	0VDC~10VDC
		V ₄	0.5VDC~4.5VDC
		V ₅	Other voltage output
		R ₄	RS485 communication interface
		H	HART protocol communication
		II	I ² C protocol communication
		Code name	Shape interface
		Electrical interface	
		Mechanical interface	
		Housman socket (J1)	
		Aviation socket (J2)	
		Waterproof joint (J3)	
		Outlet liquid level (J4)	
		Others (J5)	
		Code name	Additional features
		M ₁	4Bit LCD digital display meter (only 4mA ~ 20mADC output)
		M ₂	4Bit LED digital display meter (only 4mA ~ 20mADC output)
		d	Flameproof Exd II CT5
		i	Intrinsically safe ex IA II CT6
		QT	Other functions
CYB0511	[102]	G	U ₁ E ₁ J5G ½ M ₁ Complete model and specification



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Note: Order model CYB0511 [102]G U₁ E₁ J5G ¹ / ₂ M₁ refers to the product with CYX0511 shape, measuring range of 1MPa, gauge pressure, 24 V power supply, 4 ~ 20mA output, other wiring forms (aluminum alloy shell with terminal), G1 / 2 threaded joint, 4-digit LCD display.

7 Precautions

- 7.1 When the range of CYB0511 product is within - 5 ~ 5kpa, due to different sensor selection, the product can only measure non corrosive gas.
- 7.2 CYB0514 product pressure interface thread is limited to M20 × 1.5 or G1 / 2, please consult for special thread requirements.
- 7.3 When the product has the risk of being soaked or submerged, it must be explained when ordering.
- 7.4 When selecting high temperature products, the heat sink must be well ventilated.
- 7.5 When selecting anti-corrosion products, protect the shell and head of the product well. These parts do not have strong corrosion resistance.