Product information

Cyyz08 special pressure transmitter

Cyyz08 pressure transmitter is well designed and cost-effective. It is suitable for constant pressure water supply, thermal system, heat exchange station and other sites.
Range: 0 ~ 0.6 ~ 2.5MPa (see range selection table for details)
Output: 4 ~ 20mA, RS485
Power supply: 12 ~ 24VDC
Accuracy: 0.5% FS
In addition, we can also provide customized products to meet the application needs of customers in a short time according to their applications.

Typical application

▲Constant pressure water supply
▲thermodynamic system
▲Heat exchange station, etc

Instructions

Differential pressure transmitter ccy16 series is suitable for differential pressure measurement of liquid or gas and process industry. The operator is responsible for checking whether the equipment is suitable for the working conditions of the application. If you have any questions, please contact our sales department to ensure the correct application of the transmitter. The company does not assume any responsibility for the impact caused by improper model selection.
The user must ensure that the measured medium is compatible with the contact material of the transmitter.

⚠ Warning!
Improper use can lead to danger!

Icon description

⚠ Danger! - A dangerous situation that could result in death or serious injury.
⚠ Warning! - A potentially hazardous situation that could result in death or serious injury.
! Be careful! A potentially hazardous situation that could result in minor injury.
☞ Reminder! - A potentially hazardous situation that could result in personal injury.
⚠ Tips! - Tips and information to ensure trouble free operation of the equipment.
User
⚠ Warning! This information is applicable to technicia

Product features

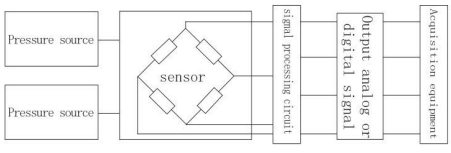
a) Diaphragm isolation technology
b) Integrated chip, wide voltage power supply
c) Compact structure and convenient installation
d) Frequency cut-off design and strong anti-interference ability
e) Current limiting, voltage limiting and reverse connection protection

Product overview

Cyyz08 series pressure transmitter adopts OEM pressure sensor with stainless steel isolation diaphragm as signal measuring element, which has been automatically tested by computer and compensated for zero point and sensitivity temperature in a wide temperature range by laser resistance adjustment process. The amplification circuit is located in the stainless steel shell, which converts the sensor signal into standard output signal, gives full play to the technical advantages of the sensor, and makes the pressure transmitter have excellent performance. It is widely used in constant pressure water supply, heat exchange station and other fields.

working principle

The pressure sensor diffuses a Wheatstone bridge on the monocrystalline silicon chip. The pressure of the measured medium (gas or liquid) changes the resistance value of the bridge wall (piezoresistive effect) to generate a differential voltage signal. This signal is transformed into a standard analog signal (as shown in the figure below) or digital signal through a special amplifier.



technical parameter

Measuring medium: liquid or gas (compatible with contact material)
Pressure range: 0 ~ 0.6 ~ 2.5MPa (see range selection table for details)
Pressure mode: gauge pressure
Output signal: 4 ~ 20mA, RS485 (standard Modbus RTU protocol)
Power supply voltage: 12 ~ 24VDC
Accuracy grade: 0.5% FS
Medium temperature: - 40 ~ 85 ℃
On time: 20ms
Temperature compensation: - 10 ~ 70 ℃
Stability: ± 0.2% FS / year
Temperature drift: ± 0.02% FS / ℃ (within the temperature compensation range)
Protection grade: IP65 note: the above protection grade refers to that achieved after the electrical connection is complete
Durability: 10X10^{6}cycles (cycles from lower range to upper range)
Response frequency: analog signal output ≤ 100Hz, digital signal output ≤ 5Hz
Overall weight: ≈ 190g

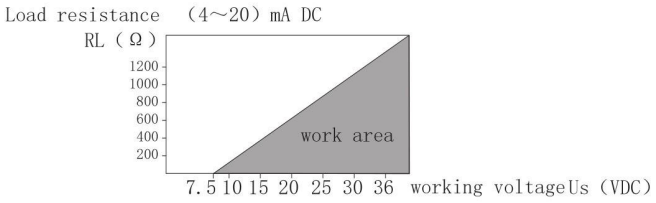
maximum power

output \ power	≤0.02Us(W)	≤0.015Us(W)
4～20mA	√	
RS485		√

Note: US = supply voltage.

Load characteristics

Voltage type: ≥ 10K Ω
Current type: load ≤ {(us-7.5) ÷ 0.02} Ω (US = supply voltage)



environment condition

Ambient temperature: - 40 ~ 85 ℃
Ambient humidity: 0% ~ 95% RH (no condensation and condensation)

Electromagnetic compatibility(EMC)

Serial number	Test items	Basic standards	Test conditions	Performance level
1	Radiated interference (enclosure)	GB/T 9254/CISPR22	30MHz-1000MHz	qualified
2	Conducted interference (DC power port)	GB/T 9254/CISPR22	0.15MHz-30MHz	qualified
3	Electrostatic discharge (ESD)	GB/T 17626.2/IEC61000-4-2	4kV(Contact), 8kV (air)	B(Note 2)
4	Radio frequency electromagnetic field immunity	GB/T 17626.3/IEC61000-4-3	10V/m(80MHz-1GHz)	A(Note 1)
5	Power frequency magnetic field immunity	GB/T 17626.8/IEC61000-4-8	30A/m	A(Note 1)
6	Electrical fast transient burst immunity	GB/T 17626.4/IEC61000-4-4	2kV(5/50ns, 100kHz)	B(Note 2)
7	Surge immunity	GB/T 17626.5/IEC61000-4-5	500V(Between lines) 1000V(Between ground wires)(1.2us/50us)	B(Note 2)
8	Conducted interference immunity induced by RF field	GB/T 17626.6/IEC61000-4-6	3V(150kHz-80MHz)	A(Note 1)

Note 1: when the performance grade is a, the performance is normal within the limits of technical specifications.

Note 2: when the performance level is level B, the function or performance is temporarily reduced or lost, but can be recovered by itself, and the actual operation condition, storage and data will not change.

Overpressure and blasting

Pressure type	Range range	Overload pressure	Burst pressure	O-ring
G	0.6＜FS≤1MPa	200%FS	500%FS	Nitrile rubber
G	1＜FS≤2.5MPa	200%FS	500%FS	Nitrile rubber

⚠ Tips! Note ①: overload pressure, no damage but abnormal operation;

⚠ DANGER! Note ②: burst pressure, damage or damage relief.

⚠ Tips! Note ③: G gauge pressure.

Overall material

Diaphragm: 316L stainless steel (contact with the measured medium)

Process connection: 304 stainless steel (contact with the measured medium)

Shell: 304 stainless steel

Seal: pressure and burst chart (contact with measured medium)

Hesman joint: ABS engineering plastic

Mechanical stability

Seismic performance: 10g (20... 2000Hz), conforming to iec60068-2-6 standard

Impact resistance: 500g / MS, conforming to iec60068-2-27 standard

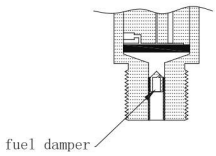
Electrical protection

Short circuit protection: permanent
Reverse pole protection: no damage, but does not work
Insulation resistance: ≥ 100m Ω 500VDC
Insulation strength: 500VAC

Output limit

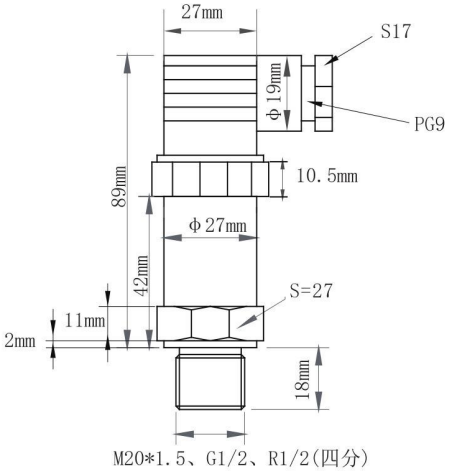
	Output minimum	Maximum output
4-20mA	4mA	20mA
RS485	0	2000

fuel damper



application
Cavitation, liquid hammer and peak pressure may occur in the liquid filling system, such as when the valve is closed quickly,Or when the pump is started and shut down. It may mainly occur at the inlet end and outlet end, even if it worksThe pressure is very low, and it is no exception. A pulse buffer is installed inside the sensor to solve this kind of problem.
Note: after adding a pulse buffer, the medium pulse frequency will drop below 30Hz.

Outline and dimensions

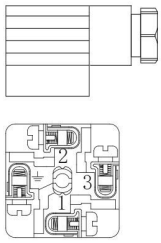


Wiring diagram

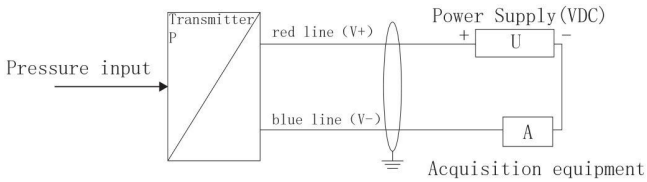
Hesman plug

ID	2-Wire	3-Wire	4-Wire
1	Power supply+	Power supply+	Power supply+
2	Power supply-	OUT+	A
3		Power supply-	Power supply-
⏚	⏚	⏚	B

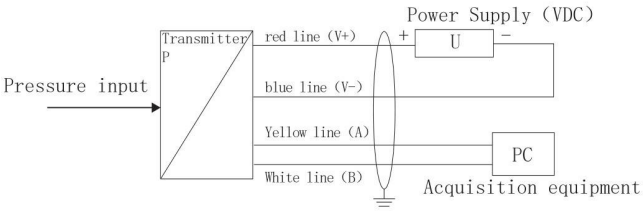
Note: the diameter of lock wire is 5 ~ 6.5mm



Current output wiring diagram (two-wire system)



RS485 (digital signal) output wiring diagram (four wire system)



☞ Represents shielded wire, and all marked grounding points must be effectively grounded.
It is recommended to select shielded twisted pair signal cable for the best effect. In order to avoid grounding loop, the shielding layer adopts single end grounding, insulated floating grounding at the end of pressure transmitter and grounding at the end of control cabinet.

☞ The transmitter shell is grounded by default, so the field equipment shall be effectively grounded. If the field equipment cannot be grounded, the marked grounding point shall be effectively grounded.

Protocol description (limited to RS485 signal output, the address is 01 by default, and the data is hexadecimal)

Basic technical parameters of transmitter

This protocol complies with Modbus communication protocol and adopts the centralized RTU mode in Modbus protocol RS485 half duplex working mode

a) Output signal: RS485 (the distance can be up to 1000m. 32 channels at most)
b) Standard Modbus RTU protocol (03 function reads data, 06 function writes setting data)
c) Data format: 9600, N, 8,1 (9600bps, no verification, 8 data bits, 1 stop bit)
d) Measuring range: 0-x (MPa, kPa...)
e) Resolution: 0.05%
f) Output data: 0... 2000 (customized for other ranges)
g) Response frequency: ≤ 5Hz
h) Response speed: ≥ 10m

Modbus RTU read data 03 command description

	Device address	Function code	Data address	Number of read data	16crc code (low front high rear)
Host command	Address	03	00 00	CN	CRC0 CRC1
	Device address	Function code	Data byte	Sensor data	16crc code (low front high rear)
Host command	Address	03	02*CN	S_HN ,S_LN	CRC0 CRC1

Protocol description (limited to RS485 signal output, the address is 01 by default, and the data is hexadecimal)

Communication examples

The address of 0-1.6mpa sensor communication equipment is set to 01, i.e. [address] = 01 (
address range 01-254); At this time, crc0 = 84, crc1 = 0A.
Then the sending and returning data are as follows:
Send: 01 03 00 01 84 0A
Return: 01 03 02 AC B9 59
02ac is hexadecimal and converted to decimal 684;
Data output: 0-2000 corresponds to 0-1.6mpa, so the current pressure is p = 1.6 * 684 / 2000 = 0.5472mpa
Calculation formula: (upper range - lower range) ÷ 2000 * current data + lower range = current pressure value

Query example

Reading the current device address can only be completed independently by a single offline sensor
Send FF 03 00 0f 00 01 A1 D7 return FF 03 02 00 01 50 50
Then: the address of this device is 01 (hexadecimal)

Detailed description of Modbus RTU write 06 command

	Device address	Function code	Data address	new address	16crc code (low front high rear)
Host command	Address	06	00 0F	H L	CRC0 CRC1
	Device address	Function code	Data address	new address	16crc code (low front high rear)
Host command	Address	06	00 0F	H L	CRC0 CRC1

Modification example

If the 01 address is changed to 09 address:
Send 01 06 00 0f 00 09 79 CF return 01 06 00 0f 00 09 79 CF
Then the original address 01 is changed to 09 successfully. The modified address can be modified offline or online.
After completion, it can work directly without power on again.

Parameter selection

CYYZ	Pressure transmitter							
	Code	Transmitter type						
	08	Special type (no connection line by default)						
		Code	Whether there is display					
		H	No display (hesman leader)					
			Code	Range range				
			11	0～0.6MPa				
			12	0～1MPa				
			13	0～1.6MPa				
			14	0～2.5MPa				
			67	customized				
				Code	signal output			
				A1	4-20mA two-wire system			
				RS	RS485 communication interface, (standard Modbus RTU protocol) four wire system			
				DZ	customized			
					Code	Connection mode		
					14	M20*1.5 External thread		
					19	G1/2 External thread		
					30	R1/2(4 points) External thread		
					44	customized		
						Code	Accuracy class	
						C	0.5%FS	
						DZ	customized	
							Code	Supply voltage
							G4	12-24VDC
							DZ	customized
								Code customized
								D Other customization requirements
								No routine
CYYZ	08	H	12	A1	14	C	G4	Selection example

For example: cyyz08-h-12-a1-14-c-g4 (special pressure transmitter, hesman lead (no display), measuring range 0-1mpa, output 4-20mA, connection M20 * 1.5, accuracy 0.5, power supply 12-24vdc).

Ordering instructions

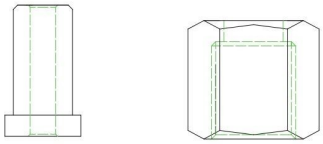
⚠ Warning!
When ordering pressure transmitters, users should pay attention to selecting appropriate specifications according to the pressure, temperature and environmental conditions of the medium.

ordering information
Model / range / output signal / connection mode / accuracy level / power supply voltage / Customization

Accessories(to be purchased separately)

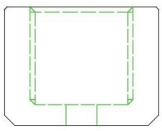
Welded base

Dz01 union welding base



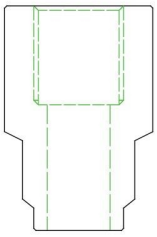
Main purpose: base welding and positioning

Dz05 column welding base



Main purpose: base welding

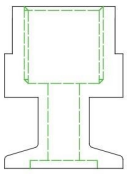
Dz03 pagoda welded base



Main purpose: base welding

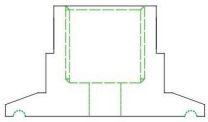
Adapter

Zb06 adapter kf16



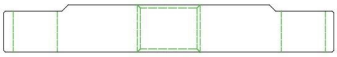
Main purpose: switching

Zb08 adapter clamp



Main purpose: switching

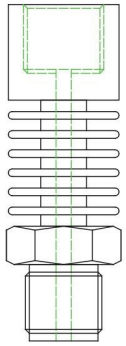
Fl01 adapter flange



Main purpose: switching

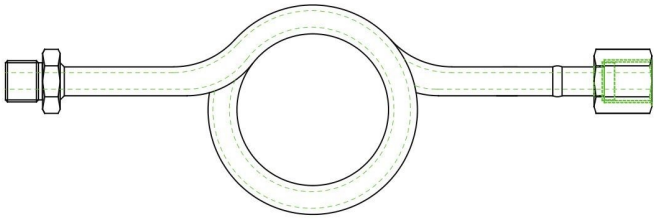
Heat transfer

Zb03 heat sink adapter



Main uses: switching and heat dissipation

Zb02 union buffer pipe



Main uses: switching, heat dissipation and buffering

Please scan the code for more information
Go to the official website to get