

## Product information

# Cyyz26 atmospheric pressure transmitter



Cyyz26 atmospheric pressure transmitter is carefully designed with excellent quality. It is suitable for monitoring ambient atmospheric pressure in various occasions. It can be selected with or without display, and has high cost performance.

Range: 0 ~ 110kpa (a)

Output: 4 ~ 20mA, RS485, 0 ~ 10VDC, 0 ~ 5VDC, 1 ~ 5VDC

Power supply: 9 ~ 36VDC, 12 ~ 36VDC

Accuracy: 0.25% FS

In addition, we can provide customized products to meet the application needs of customers in a short time according to their applications.

### Typical application

▲Ambient air pressure monitoring.

## Instructions

Cyyz26 atmospheric pressure transmitter is suitable for atmospheric pressure monitoring in various environments. 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 may result in minor injury.

📢 Reminder! - A potentially hazardous situation that may cause personal injury.

⚠ Tips! - Tips and information to ensure trouble free operation of the equipment.

User

⚠ Warning! This information is applicable to technicians.

## Product features

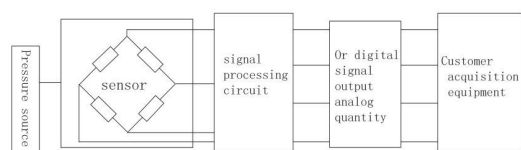
- a) Easy to install and disassemble
- b) Good long-term stability
- c) Frequency cut-off design and strong anti-interference ability
- d) Current limiting, voltage limiting and reverse connection protection
- e) Wide voltage supply, nonlinear correction and high precision

## Product overview

Cyyz26 series atmospheric pressure transmitter adopts OEM sensor with diffused silicon 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 converts the sensor signal into standard output signal, gives full play to the technical advantages of the sensor, and makes cyyz26 series pressure transmitter have excellent performance. It has strong anti-interference, overload and impact resistance, small temperature drift, high stability and high measurement accuracy. It is an ideal pressure measuring instrument in the field of environmental monitoring.

## Working principle

The sensor diffuses a Wheatstone bridge on the monocrystalline silicon chip. The pressure of the measured medium 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: gas  
 Measuring range: 0 ~ 110kpa (application range: 1 ~ 110kpa)  
 Pressure type: absolute pressure  
 On time: 400ms  
 Accuracy grade: 0.25% FS  
 Response frequency: 5Hz  
 Stability:  $\pm 0.1\%$  FS / year  
 Temperature compensation: - 10 ~ 70 °C  
 Temperature drift:  $\pm 0.01\%$  FS/°C (within the temperature compensation range)  $\pm 0.05\%$  FS/°C (outside the temperature compensation range)  
 Protection grade: IP65 note: protection grade refers to the protection grade reached after electrical connection is complete  
 Overall weight: no display  $\approx 110g$ , with display  $\approx 130g$

## Output power supply

output \ power supply	9~36VDC	12~36VDC
4~20mA	√	×
RS485	√	×
0~10VDC	×	√
0~5VDC	√	×
1~5VDC	√	×

## Maximum power

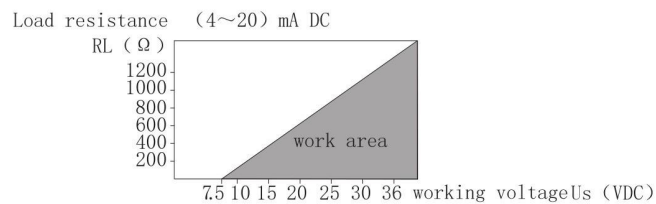
output \ power	$\leq 0.02U_s$ (W)	$\leq 0.015U_s$ (W)
4~20mA	√	
RS485		√
0~10VDC		√
0~5VDC		√
1~5VDC		√

Note:  $U_s$  = supply voltage.

## Load characteristics

Voltage type:  $\geq 10K \Omega$

Current type: load  $\leq \{(U_s - 7.5) \div 0.02\} \Omega$  ( $U_s$  = supply voltage)



## Environment condition

Ambient temperature: - 40 ~ 85 °C

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 (触点), 8kV (空气)	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) 1kV (Between ground wires) (1.2us/50us)	B(Note 2)
8	Immunity to conducted interference 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 the 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 status, storage and data will not change.

## Overall material

Shell: ABS engineering plastics

Cable locking head: nylon (lock wire diameter 4 ~ 6mm)

Display: LCD display without backlight

Seal: nitrile rubber

## Mechanical stability

Seismic performance: 10g (20... 2000Hz) in accordance with 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

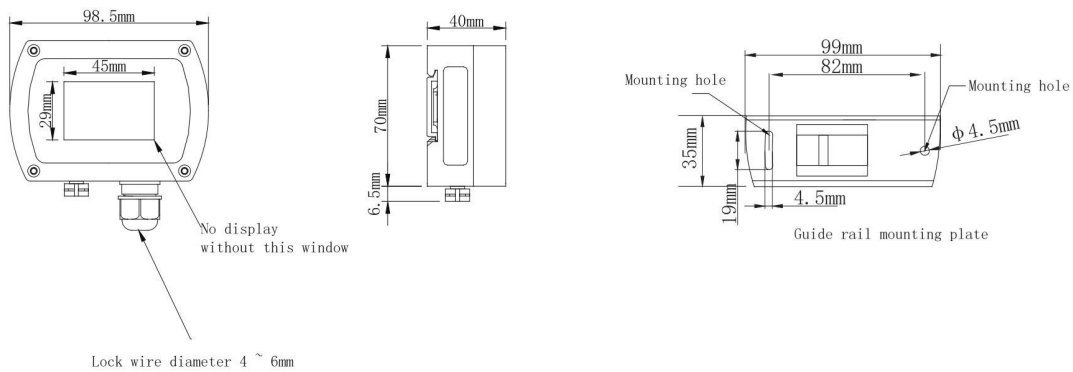
Insulation resistance:  $\geq 100\text{m}\ \Omega$ , 500VDC

Insulation strength: 500VAC

## Output limit

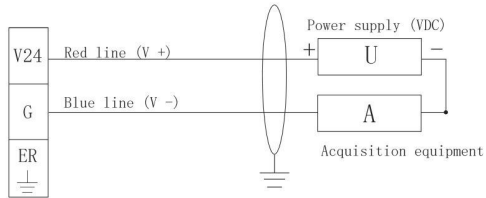
	Output minimum	Maximum output
4-20mA	4.145mA	20mA
RS485	100	15000
0~10VDC	0.09VDC	10VDC
0~5VDC	0.046VDC	5VDC
1~5VDC	1.036VDC	5VDC

## Outline and dimensions

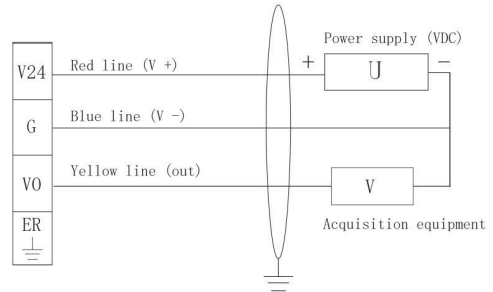


## Wiring diagram

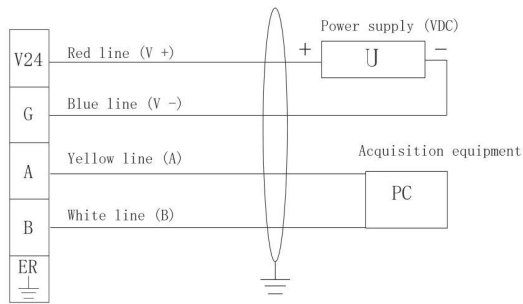
Current output wiring diagram (two-wire system)




Voltage output wiring diagram (three 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 transmitter end and grounding at the control cabinet end.

## Protocol description (limited to RS485 signal output, all product addresses are 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 (distance up to 1000m). Up to 32 channels)
- 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: 0-110kpa (a)
- e) Resolution: 10Pa
- f) Output data: 0... 11000 (customized for other ranges)
- g) Response frequency:  $\leq 5\text{Hz}$
- h) Response speed:  $\geq 10\text{ms}$

## 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)
Return from machine	Address	03	02*CN	S_HN , S_LN	CRC0 CRC1

## Communication examples

The address of 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 26 48 B9 59

2648 is hexadecimal, converted to decimal 9800;

Data output: 0-11000 corresponds to 0-110kpa, so the current pressure is  $p = 9800 / 100 = 98\text{kpa}$

## Communication examples

The address of 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;

Therefore, the current temperature value is  $t = 684 / 10 - 50 = 18.4\text{ }^{\circ}\text{C}$

## 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 device address 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)
Return from machine	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 successfully changed to 09. 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			
	26	Atmospheric pressure transmitter (no connection line by default)			
		Code	Is there a display		
		P	No display		
		X	With display		
			Code	signal output	
			A1	4-20mA two-wire system	
			V4	1-5vdc three wire system	
			V5	0-5vdc three wire system	
			V10	0-10vdc three wire system	
			RS	RS485 communication interface, (standard Modbus RTU protocol) four wire system	
			DZ	customized	
				Code	Supply voltage
				G	12-36VDC
				G5	9-36vdc (except 0-10vdc output)
				DZ	customized
				Code	customized
				D	Other customization requirements
				No	routine
CYYZ	26	P	A1	G5	Selection example
For example: cyyz26-p-a1-g5 (atmospheric pressure transmitter, no display, output 4-20mA, power supply 9-36vdc).					

## 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 / display / output signal / supply voltage / Customization

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