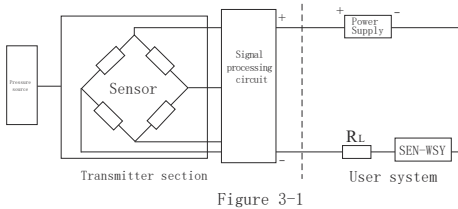




An instruction manual CYYZ39 High protection type pressure transmitter

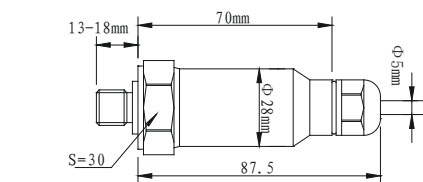
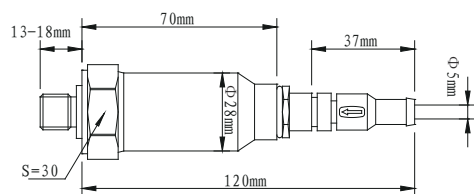
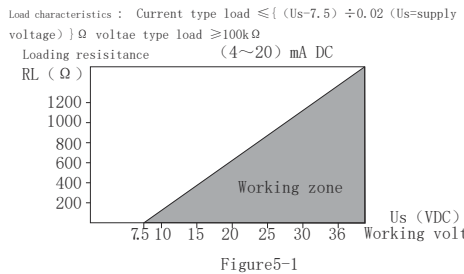


4. Product Features

- a) Using diaphragm isolation technology
- b) integrated chip, wide range of supplied voltage
- c) Compact structure, easy installation
- d) Frequency cutoff design, strong anti-interference ability, lightning protection
- e) Current limiting, voltage limiting, reverse connection protection (limiting current output)
- f) High accuracy, good stability, fast response and impact resistance

5. Technical parameters

Measuring media : Liquid or gas (compatible with contact media)
Overall material: Diaphragm 316L stainless (contacted)
Process connection 304 stainless (contacted)
Casing 304 stainless
Seal component Nitrile rubber (contacted)
Cable 5 mm polyurethane shielded cable (UV protection)
Pressure range: 0-2.5-60 MPa (See range selection table attached)
Pressure mode: gauge pressure, absolute pressure
Output signal: 4~20mA, (0~5VDC, 1~5VDC, 0.5~2.5VDC Customized)
Supply voltage: 12~36VDC Normal
3~5VDC Customized (Output 0.5~2.5VDC)
Accuracy class: 0.1%FS, 0.25%FS
Working conditions: contact media temperature -40~85℃
Ambient temperature -40~85℃
Seismic performance : 10g (20...2000Hz)
Overload capacity: 200% full scale
Response frequency: ≤500Hz
Stability : ±0.1% FS/year
Temperature compensation: -10~70 ℃ (accuracy of 0.25% FS)
-40~80 ℃ (accuracy of 0.1% FS)
Temperature drift: ±0.01%FS/℃ (within the temperature compensate range)
Overall weight : ≈450g (Containing 5 metres of wire)
Protection lever: IP67
Power range : Current type ≤0.02Us (W)
Digital type ≤0.015Us (W)
Voltage type ≤0.008Us (W)
Voltage type (output 0.5~2.5) ≤0.001Us (W)
Note: Us=Supplied voltage

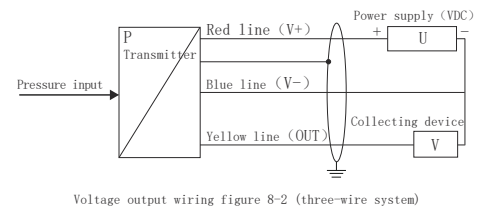
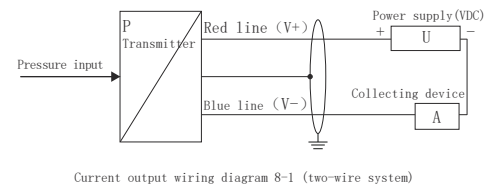


7. Installation and precautions

- ⚠ Warning!
a) Installed without pressure nor power supply.
- ⚠ Warning!
b) Transmitter should be installed by technician who read and understood this operational manual.
- ⚠ Danger!
c) The transmitter uses diffused silicon oil-filled core, which may cause explosions if in-properly handled. Do not measure oxygen for sake of he safety.
- ⚠ Danger!
d) This product is not explosion-proof, using in explosive area may cause serious injury and significant loss.
- ⚠ Warning!
e) It is prohibited to measure media that is not compatible with the transmitter.
- 🔧 f) Please check if the package is in good order when receiving the product, confirm the transmitter model and specifications.
- ! g) No modification or change can be made to the device.
- ! h) Handle with care, do not throw, do not force during installation of transmitter.
- 🔧 i) If the size of the interface does not match the size of the field interface, the self-made conversion joint can be connected.
- 🔧 j) The pressure interface should be installed upward (for gas discharge), in hydraulic system.
- 🔧 k) It is recommended to install at minor temperature gradient variations zone.
- 🔧 l) It is recommended to adopt lightning protection and over voltage protection facility between power distribution box or power supply and the transmitter, for the fact that there will be danger if the transmitter is installed in a harsh area.
- 🔧 m) While measuring steam or other high temperature media, please ensure the media temperature is not higher than the maximum work temperature of transmitter. If necessary, it is required to install a cooling device.
- 🔧 n) Install a pressure cutoff valve between the transmitter and media, to inspect and avoid interference with measurement accuracy caused by pressure port clogging.
- 🔧 o) During the installation, use a wrench to tighten the transmitter from the hexagonal nut at the bottom, to avoid wire disconnection caused by direct rotation of the upper part of the device.
- ! p) This product is a light current device, it must be laid separately from high current cables during wiring, and comply with relevant national wiring standard (GB/T50312-2016) .

- 🔧 q) Ensure that the power supply voltage meets the requirement of the transmitter. And make sure the maximum voltage of the pressure source is within the range of the transmitter.
- 🔧 r) Increase pressure and reduce pressure very slowly during the pressure measurement, to avoid instantaneous high voltage or low voltage.
- ⚠ Warning!
s) Make sure the pressure source and power are disconnected before disassembling the transmitter, to avoid accidents in result of media ejection.
- 🔧 t) Do not disassemble during usage, and do not touch the diaphragm, to avoid damage of the product.

8. wiring installation



- 🔧 Representing the shielded wire, all marked grounding points must be effectively grounded.
- 🔧 The transmitter casing defaults to be ground, all field devices are required to be effectively grounded.
- 🔧 Only the current output has reverse connection protection (no damage bug does not work), current limiting and voltage limiting protection. Reversed connection of all other output signals can cause damage to the transmitter.

Typical application

- ▲ utility vehicle
- ▲ Mobile Hydraulic Equipment
- ▲ construction machinery



1. Overview

1.1 Safety guidance

This operational manual contains important information on how to use the transmitter correctly. The installation personnel of the transmitter should read this manual carefully before operation. In case of further explanation or special questions, which cannot be addressed in this manual, please contact our company for assistance on necessary information.

Please pay attention to the warning signs on the manual! Do not use crystallized or solidified measure medium, to avoid damaging of the sensor.

The operator must strictly follow the safety instructions and user' s manual during operation. Furthermore, the operator should comply with the occupational safety rules, the accident prevention guidelines, the national standards and engineering specifications as well.

Please keep this manual in a safe place near the transmitter for easy access.

The copyright of this operational manual is protected. This version of operational manual was edited according to the functions of corresponding products, the product functions and operation procedures are described as complete as possible. If there is any error, please don' t hesitate to contact us. The company is not responsible, in regard of any fault description or its possible consequences.

- The right to modify the technical parameters is retained -

1.2 Icon description

⚠ Danger! - Hazard that may result in death or serious injury.

⚠ Warning! - Potential hazard that may result in death or serious injury.

⚠ Cautious! - Potential hazard that may cause minor injury.

! Reminder! - Potential hazard that may result in personal injury.

🔧 Tips! - Tips and information for smooth operation of the equipment.

1.3 Manual user

Warning! This manual is suitable for technicians.

1.4 Limit of liability

⚠ The company will not be held responsible nor provide any warranty service, in case of transmitter damages caused by failure to follow the instruction manual, inappropriate use, self-modification or destruction.

1.5 Instructions for use

CYYZ11 series of pressure transmitter can be used to measure absolute pressure, negative pressure and gauge pressure depending on specific model. Its suitable for pressure measurement in liquid, gas and process industries. The operator is responsible of verifying whether the equipment is suitable for the application working condition. If there is any question, please feel free to contact our sales department in order to ensure correct use of the transmitter. The company is not liable of any impact resulted from inappropriate section of the product.

The purchased model is suitable for certain gas or liquid medium as described in the measurement samples. The user must ensure the compatibility of contact media and transmitter.

⚠ Warning!
Inappropriate use may lead to danger!

2. Product overview

CYYZ11 series pressure transmitter products use the OEM pressure sensor which adopts stainless steel isolation diaphragm as the signal measuring component, and are automatically measured by computer. The zero temperature and sensitivity temperature compensation in a wide temperature range is achieved through the laser resistor trimming process. The amplifier circuit is fitted in a stainless casing, to convert the sensor signal into standard output signal, which fully utilizes the technical advantages of the sensor. As a result, the CYYZ11 series pressure transmitters have excellent performances, which are strong anti-interference, overload protection and shock resistance, low temperature drift, high stability, and high measurement accuracy. It is the ideal pressure measuring device in industrial automation field.

3. Working principle

Pressure sensors are measured by diffusion of a Wheatstone bridge on a single crystal silicon wafer. Variation of Bridge Wall Resistance (Piezoresistive Effect) by Pressure on Medium (Gas or Liquid) To generate a differential voltage signal, which will be measured by a special amplifier. The corresponding signal is converted into a standard analog signal (as shown in Figure 3-1).

9.Specification selection

CYYZ39 High protection pressure transmitter selection table									
CYYZ Pressure transmitter									
Code		Transmitter type							
39		High protection type							
Code		Connection mode							
HK		Aviation plug (Default 5 m connection)							
Z		Direct lead (Default 5 m connection)							
Code		Range							
		See range selection table attached							
Code		Signal output							
AI		4~20mA Two-wire system							
HZ		Custom							
Code		Connection type							
14		M20*1.5 External thread (18mm)							
17		G1/4 External thread (13mm)							
19		G1/2 External thread (18mm)							
44		Custom							
Code		Accuracy level							
5		0.1%FS							
9		0.25%FS							
Code		Supply voltage							
G		12~36VDC Regular							
G3		3~5VDC Custom (Note 1)							
HZ		Custom							
Code		Custom							
D		Other custom requirements							
No		Regular							
CYYZ		39	HK	B	AI	H	B	G	Example of selection
For example: CYYZ39-HK-16-AI-14-B-G (High protective pressure transmitter, aviation chaton, range 0~6 MPa, output 4~20 mA, connection M20*1.5, accuracy 0.25, power supply 12~36 VDC) Note 1: Output 0.5~2.5VDC									

Range Selection Schedule							
Code	Range	Code	Range	Code	Range	Code	Range
14	0~2.5MPa	15	0~4MPa	16	0~6MPa	17	0~10MPa
18	0~16MPa	19	0~20MPa	20	0~25MPa	21	0~30MPa
22	0~35MPa	23	0~40MPa	24	0~60MPa	31	100kPa (A)
32	200kPa (A)	33	500 kPa (A)	34	1MPa (A)	35	2MPa (A)
67	Custom						
Remark : A represents absolute pressure; no mark represents gauge pressure.							

10. Initial start

- ⚠ Warning!
- a)Before starting, it is a must to check if the transmitter is installed correctly, and if there is any obvious damage.
- ⚠ Warning!
- b)The transmitter must be operated by professional technicians who read and understood this operating manual.
- ⚠ Warning!
- c)The transmitter is only suitable for working conditions that meet the technical requirements!

11.After sales service

- a)The company is responsible for all the maintenance costs during the warranty period, after inspected by the technician of the company and confirmed there is quality failure.
- ⚠ Warning!
- b)Please clean the residual media before returning, especially substances that is harmful to human health, such as corrosive, toxic, carcinogenic or radioactive substances;
- c)Please keep the warranty card and certificate in a safe place, and return with the product when there is need of repairing;
- d)If there is any faulty with the transmitter, please contact our after-sales service. If you need to send the transmitter back to the company for repair after confirming the problem. Please attach the following information:
Description of the site environment;
Fault phenomenon;
Delivery address and contact information;

11.1Common fault analysis and elimination

Fault phenomenon	Cause analysis	Elimination method
• The transmitter has no output signal.	• The transmitter is not powered. • Fault connection.	• Supply power to transmitter correctly according to the wiring diagram.
• Output irregular jumps when the pressure is constant	• The transmitter is not grounded • Strong RF interference on site • No shielded cable applied	• Use shielded cable and ground the shield • The transmitter is properly connected to the earth
• The corresponding output value is incorrect when transmitter is not connected to pressure media	• The transmitter is not operating in required environment	• Move the transmitter to the specified environment or take action to ensure that the environment meets the requirements
• The transmitter output does not match with the measured pressure	• The supply voltage is incorrect • The external load is too large	• Whether it is within the power supply range • Adjust the external load

If the fault phenomenon does not fall within the above range, please contact our after-sales.

11.2 Calibration

Zero and full-scale drift may occur during the use of the transmitter. If the above phenomenon occurs after long time use, it is recommended to send the transmitter back to us for calibration to ensure high accuracy.

12. Transportation and storage

The transmitter should be kept in a sturdy cardboard box (large device requires a wooden box), free move in the box is not allowed, be careful when handling, do not handle with roughly. Store area . should meet the following conditions:

- ☞ a) Protect from rain and moisture.
- ☞ b) Free from mechanical shock or shock.
- ☞ c) Temperature range -20 ~ 55 ° C.
- ☞ d) The relative humidity is not more than 80%.
- ☞ e) No corrosive gas in the environment.

13.Unpacking precautions

- ☞ a) After unpacking, check the packing list to confirm if the documents and accessories are complete.
The packed documents are:
A copy of the instruction manual.
A product certificate.
A warranty card.
- ☞ b) Observe if there is any damage caused during transportation, for proper following up.
- c) We hope that the user can safely keep the “warranty card”, please don’t misplace it, otherwise you can’t return to the factory for free repair!

14. Instructions for ordering

- ⚠ Warning!
- When purchasing the pressure transmitter, the user should select the appropriate model to make sure it meets specifications of the contact media, such as the pressure, temperature, protection level and environmental conditions