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Product Information

Embedded Micro Differential Pressure Transmitter/Controller

Embedded micro differential pressure transmitter/ controller is suitable for measuring gas pressure of positive, negative or differential pressure in various ventilation, air conditioning systems and equipment, with relay switch control and sound and light alarm. Both wall mounted and embedded can be installed. Range: -10~0~10kPa
Output signal: RS485、4-20mA&0-10VDC
Alarm output: Relay output * 2
Supply voltage: 20-28VDC
Accuracy level: 0.25% FS, 0.5% FS, 1% FS
In addition, we can also provide customized products that meet the application needs of customers in a short period of time based on their applications.

Typical applications

▲ Industrial equipment
▲ Environmental monitoring
▲ Cleanrooms, laboratories, etc

Instructions

Embedded micro differential pressure transmitter is suitable for gas pressure measurement of positive pressure, negative pressure or differential pressure in various ventilation, air conditioning systems and equipment. The operator has the responsibility to verify whether the equipment is suitable for the operating conditions of the application. If you have any questions, please contact our sales department to ensure the correct application of the transmitter. We do not assume any responsibility for the impact caused by improper selection.
Users must ensure that the tested medium is compatible with the material in contact with 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

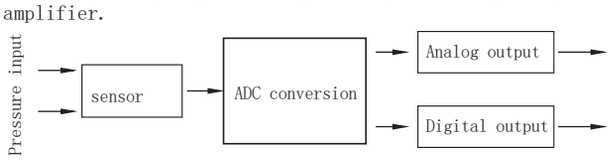
a) Integrated chip, wide voltage power supply
b) Cut off design, strong anti-interference ability
c) Multiple pressure units can be switched
d) High precision and good stability
e) Built in buzzer, providing sound and light alarm, can set the alarm pressure range on site
f) Adopting flame-retardant ABS shell, it has good impact resistance, heat resistance and other properties
g) You can choose the front panel/rear panel/side panel air intake method

Product Overview

The embedded micro differential pressure transmitter adopts a piezoresistive pressure sensor chip, which uses thin film resistors on the substrate for zero point correction, zero temperature compensation, and sensitivity compensation. The high-performance and stable silicon chip package makes it resistant to static pressure, anti-interference, stable, and reliable. Therefore, this product can be applied to micro differential pressure fields for various gas measurements. It is an ideal micro differential pressure measuring instrument in the field of industrial automation.

Working principle

The differential pressure sensor is a piezoresistive pressure sensor chip, which combines the pressure sensor and signal conditioning ASIC in one package, so that it has the characteristics of high stability and small error. Then the signal corresponding to the measuring range is converted into standard analog signal or digital signal through a special amplifier.



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Technical parameter

Measurement medium: air and neutral gas (compatible with the contact material and humidity<90RH%, no condensation) Measurement range: -10~0~10kPa
Accuracy level: 0.5% FS or 0.25% FS (range ≥ 1kPa) 1% FS or 0.5% FS (range<1kPa)
(Reference conditions: temperature 15-25 ℃, atmospheric pressure 86-106kPa, humidity 45-75% RH.) Pressure type: differential pressure
Output signal: RS485、4-20mA&0-10VDC
Alarm output: Relay output * 2 (contact capacity 220VAC, 3A)
Supply voltage: 20-28VDC
Temperature compensation: -10~60 ℃
Medium temperature: -10~60 ℃
Connection time: 400ms
Response frequency: ≤ 5Hz
Stability performance: ± 0.3% FS/year (range ≥ 1kPa)
± 0.5% FS/year (range<1kPa)
Temperature drift: ± 0.03% FS/℃ (within temperature compensation range)
Durability: $1X10^6$cycles (from lower range to upper range)
Overall weight: ≈ 365g
Protection level: IP65
Resolution: 1/2000
Maximum power: ≤ 0.015Us (W)

Environment condition

Environmental temperature: -40~85 ℃
Environmental humidity: 0% to 95% RH (no condensation or dew formation)

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(contactor), 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) 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.

Static pressure and blasting

Range	Maximum static pressure at single end	Single end burst pressure
±1kPa	±10kPa	20kPa
±5kPa	±33kPa	41kPa
±10kPa	±82kPa	103kPa

⚠ Tips! Note: maximum static pressure at single end, maximum pressure at single end;

⚠ DANGER! Note: single end burst pressure, damage or conduction.

Overall material

Shell: ABS engineering plastic

Diaphragm: Silicon chip (in contact with the measured medium)

Internal pressure tube: silicone (in contact with the measured medium)

External pressure tube: FEP perfluoroethylene propylene (in contact with the tested medium)

Cable locking head: Nylon

Four core signal wire: PVC wire 4 * 0.2mm2 (red, yellow, blue, white XL13)

Six core control wire: PVC wire 6 * 0.5mm2 (red, black, white, brown, green, yellow XL14)

Display: LCD liquid crystal display

Mechanical stability

Anti vibration performance: 10g (20... 2000Hz) meets the IEC60068-2-6 standard

Impact resistance: 500g/1ms in accordance with IEC60068-2-27 standard

Electrical protection

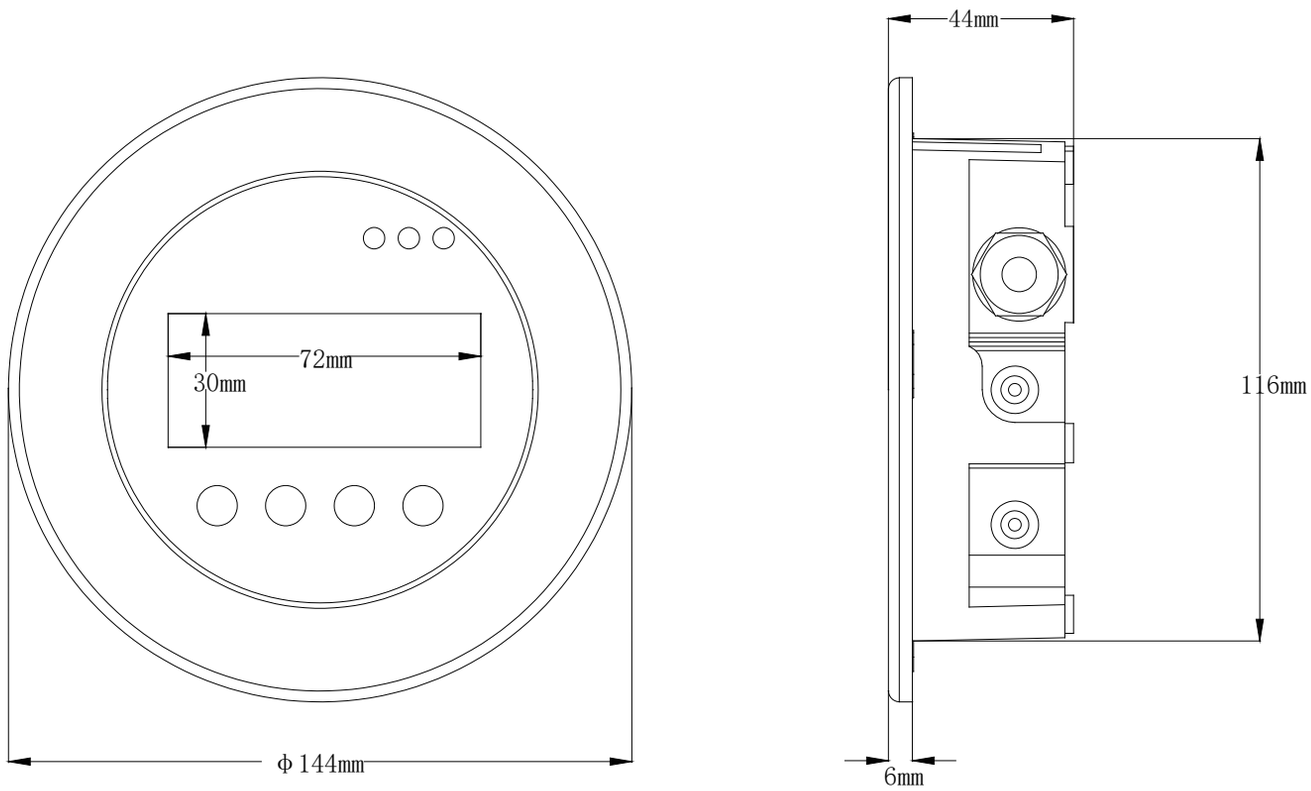
Short circuit protection: permanent

Reverse protection: No damage, but not working

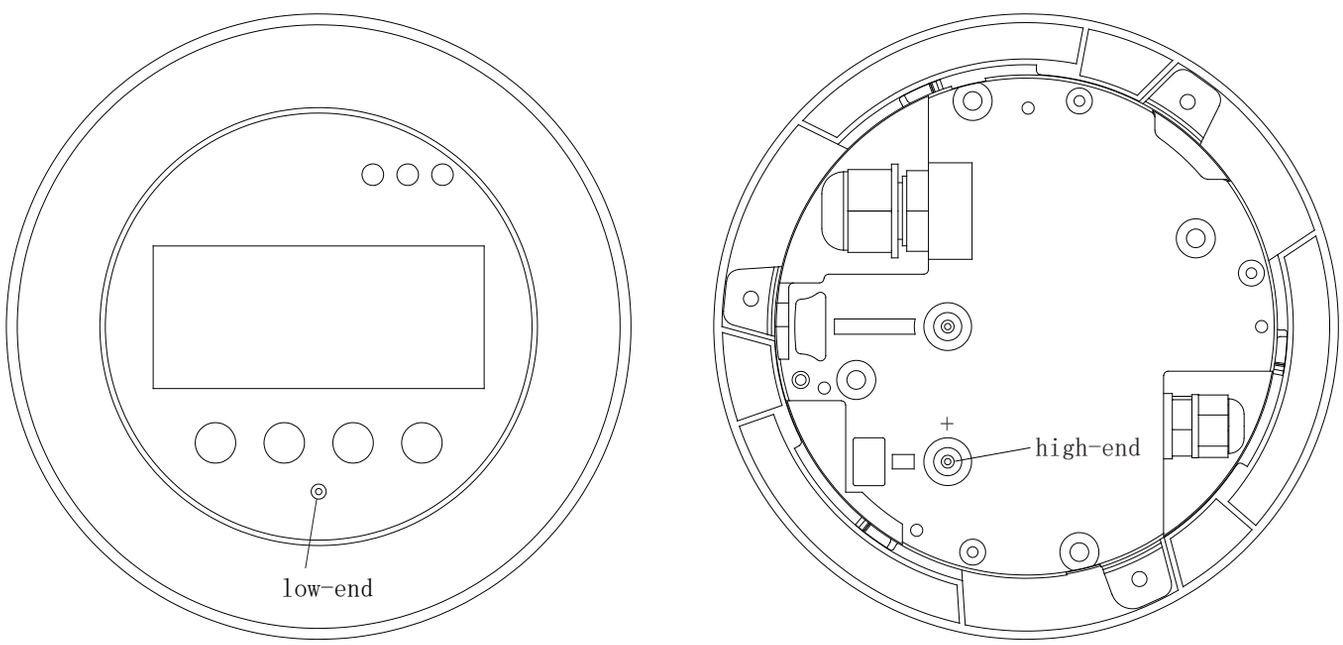
Insulation resistance: ≥ 100M Ω, 500VDC

Insulation strength: 500VAC

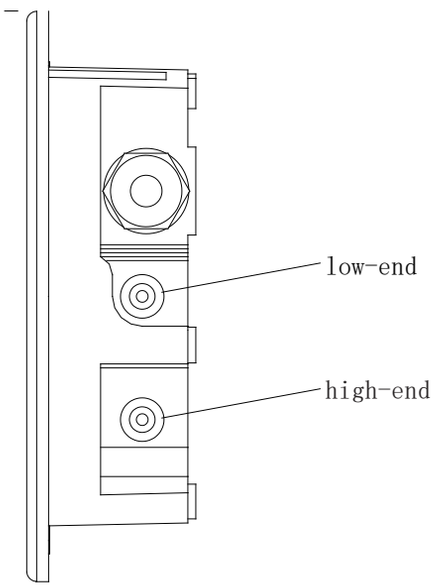
Appearance and size



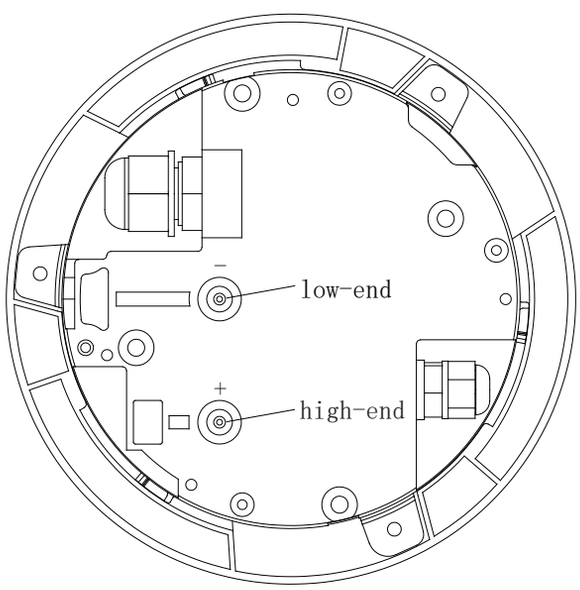
Front panel air intake



Side intake

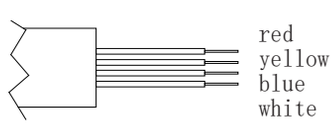


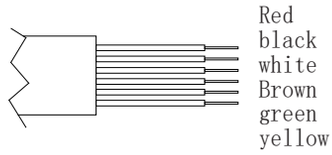
Back air intake



Wiring diagram

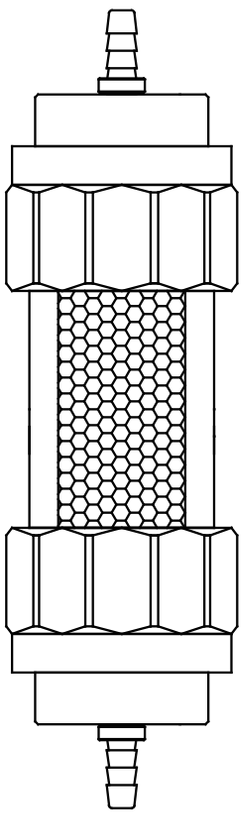
Four core signal cable	colour	RS485	4~20mA&0~10VDC
	red	Power supply+	Power supply+
	yellow	485A	V
	blue	Power supply-	Power supply-
	white	485B	ma
Six core control cable	red	Normally open contact N/O	
	black	Public end COM	
	white	Normally closed contact NC	
	Brown	Normally open contact N/O	
	green	Public end COM	
		Normally closed contact NC	





Enclosure(to be purchased separately)

GL filter



Main application: Used for pressure, moisture resistance, and impact resistance