LDN900 series pressure transmitters

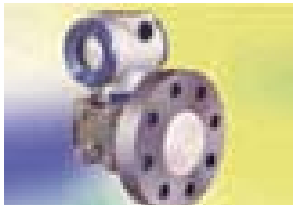
Description

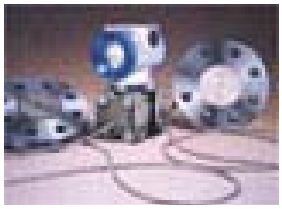
LDN900 series pressure transmitters were newly developed by LEADER with advanced technique, they are highly efficient and well structured. The product adopted the most matured capacitance sensing technique, with highly reliable and stable amplifying circuit which transforms pressure signals into 4～20mA 2-wires industrial standard signal. Excellent packing technique ensured their high quality and fine performance.

LDN900 series pressure transmitters have nearly one hundred types, including differential pressure, gauge pressure, absolute pressure, negative pressure and so on, their optional parts, signals, mounting are same with the products of the other world famous Co. Furthermore, the product has the advantages of small size, small weight, fine looking and low cost.

LDN900 series pressure transmitters can be used widely in petroleum, chemistry, steel, electric power, food, paper, textile, medical and other industrial fields, to fulfill measurements and control on differential pressure, pressure, flow and liquid level. They are suitable for various corrosive media.

LDN900 series pressure transmitters have three versions: normal, explosion-isolation and intrinsically safe version. Users can choose according to their actual demand.



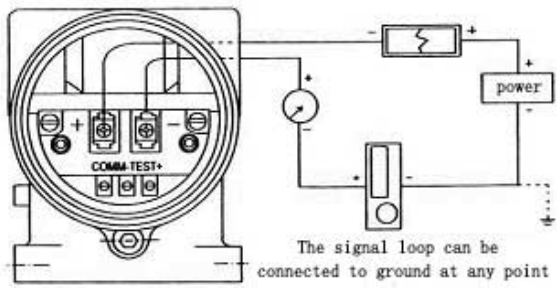


Characteristics

- High accuracy
- High stability
- 2-wires
- Solid state sensor
- Small weight (1.9kg)
- Small size（H=169mm）
- Single side anti-overpressure
- Range, zero external adjustable
- Positive shift up to 500%
- Negative shift up to 600%
- Damping adjustable
- No movable mechanical parts
- High interchangeability
- Optional contact media diaphragm
- Aluminum alloy housing
- Can be used under any weather conditions

Connection

Please connect in accordance with the following diagram, don't apply voltage or current that over 45VDC, standard operating voltage 24VDC。



LEADER Electronic Co Ltd - 116, Jianghuali, Jianghua Road, Jiangmen City, GD, PRC
Tel: + 86 750 3379183、 3101711 Fax: + 86 750 3388669
Website: www.leadersensors.com - e-mail: leader@leadersensors.com

Parameters

Range and precision class

Code	Range	Static pressure（MPa）	Accuracy
LDN900GP pressure	0～0.25kPa-0～40MPa	14;32;52	±0.25%
LDN900AP absolute	0～1.2kPa-0～10000kPa	14	±0.25%

Adjustment

1.Range（S）

The range of the transmitter can be continuously adjusted within 1/6 of the max range, it can be achieved by adjusting the potentiometer（S）on the top.

2.Zero（Z）

Zero output can have 500% positive shift or 600% negative shift, but the calibrated measurement range after positive or negative zero shift can't exceed the upper value of the max measure range.

LDN900GP negative	0～0.25kPa-0～98kPa	14	±0.25%
LDN900DP differential	0～1.2kPa-0～10MPa	14	±0.25%
LDN900DR tiny differential	0～0.006kPa-0～1.5kPa	6	±1.0%
LDN900HP tiny differential	0～6kPa-0～180kPa	40	±0.25%
LDN900FG flange liquid level	0～1.2kPa-0～2500kPa	1.9;4.9	±0.25%
LDN900YF flange differential	0～1.2kPa-0～2500kPa	1.9;4.9;14	±0.25%

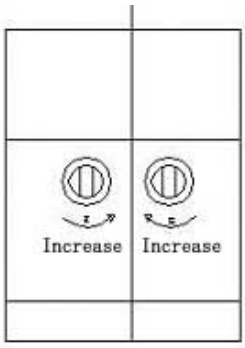
- Media：liquid, gas or steam
- Output：4~20mADC, 2-wires
- Operating voltage：12~45VDC, standard 24VDC±5%
- Amplifier operating temperature：-25~90℃
- Sensor operating temperature ：-40~104℃
- Relative humidity：0~100%
- Max positive shift：500% of min range
- Max negative shift：600% of min range
- Damping: time constant “cn” continuously adjustable between 0.2~1.67
- Indicator accuracy class：2.5
- Explosion proof：ExdsIIBT5
- Intrinsically safe：ExiaIIT5
- Static pressure effect：effect on output not exceed ±0.5% of the max range
- Stability： ±0.25%/6 months
- Max range temperature effect：zero error is ±0.5%/55℃； total error is ±1.0%/55℃
- Power supply effect： less than output 0.005%/V
- Overload effect：negligible
- Mounting position effect: max zero error 0.24Kpa，but can be calibrated and have no effect on range
- Diaphragm material: 316 stainless steel, tantalum and alloy
- Ring: fluoroelastomer
- Flange and bolt: 316 stainless steel
- Filling liquid： silicon oil
- Electrical housing: copper-aluminum alloy
- Port connection: flange 1/4NPT
  1/2NPT (optional)
  M20X1.5 external threaded and Φ12 welded pipe(optional)
- Electric connection: 1/2NPT leading pipe
- Weight： 2.9kg

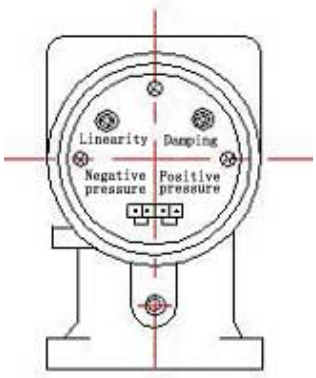
Note: adjust the range will affect zero, but adjust zero will not affect the range, please adjust it carefully.

3.Linearity

There is a potentiometer for adjusting linearity at the welded side of the amplifying circuit board, please don't adjust it.

4.There is a potentiometer for adjusting damping at the welded side of the amplifying circuit board, it can eliminate fluctuations caused by frequently change of the measured pressure, it’s time constant can be adjusted from 0.2 to 1.7 second. It is advised to take the shortest possible time constant. Adjusting clockwise will increase damping.





Mounting

1. Mounting position

The correct mounting position on the pipe is relevant to the measured media. To achieve the best measurement effect, the following terms should be considered:

Keep transmitter away from corrosive or hot media

Prevent sediment from depositing in the leading tube

The leading tube should be as short as possible

The liquid column at both side of the leading tube should be at the same level

The leading tube should be installed where temperature fluctuation is small

2. When measuring liquid flow, the pressure port should be opened at the side of the flow pipe to prevent sediment from depositing.

3. When measuring gas flow, the pressure port should be opened on top or at the side of the flow pipe, and the product should be mounted on top of the pipe to make it easy for the accumulated liquid to flow into the pipe.

4. When using exhaust valve or drainage valve on the flange, take care not to take off all the screws completely, lest the sealing balls should come out. Keep the exhaust valve downward when measuring gas and keep it upward when measuring liquid. Please tighten the screws after using the valves.

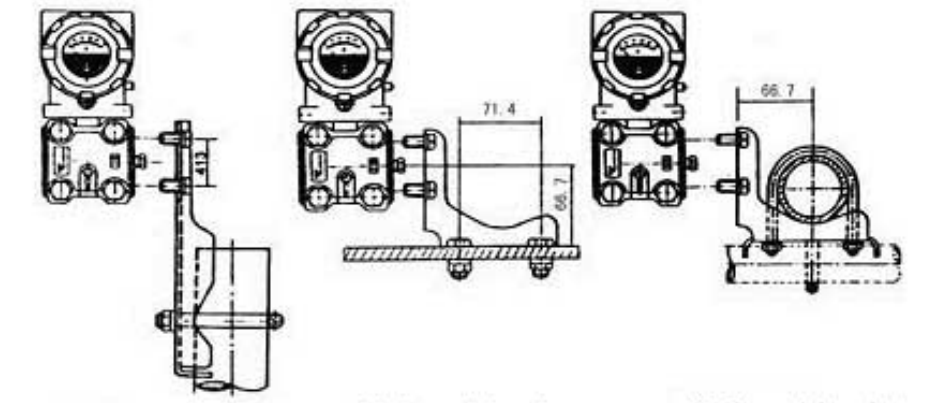
5. A condensation pipe should be installed when measuring steam flow. When measuring other high temperature media, take care not to exceed the operating temperature.

6. Mounting panel has three types of brackets B1, B2, B3 for users to select.

7. Following are the parameters of the flange port:

- 1/4NPT internal thread
- 1/2NPT internal thread
- Standard hole M10X1.5, hole distance 41.3mm
- Standard distance between H and L is 54mm

Mounting diagram



B3 Flat bracket (Pipe mounted version) B2 Curved bracket (Plate mounted version) B1 Curved bracket (Pipe mounted version)

Remark

1. Please connect it in accordance with the directions.
2. The product is precise measurement instrument, no knocking, shocking or dismantling.
3. Transmitter should be mounted in a ventilated, dry, non-corrosive and cool place.
4. System overload is not allowed to exceed the limitation set in the manual.
5. Stop the machine immediately when there is an abnormal output. If it belongs to quality problem, please return it to our company with the guarantee card for repairing or exchange.