

DOUBLE FLANGE DIFFERENTIAL PRESSURE TRANSMITTER MODEL MST24



1)Orange style 2)Blue style

MST24 double flange differential pressure transmitter is composed of the MST22 differential pressure transmitter and a small welded remote flange with a capillary tube. between the flange and the sensor, silicon oil and other filling fluids are used to transmit pressure, to prevent the measured medium from passing through the impulse pipe. Which will impact the measurement. The impact of the measured medium pass through the impulse pipe includes crystallization, solidification vaporization (boiling), condensation fractionation (severe change) and etc. The Transmitter is used to measure the liquid level, flow and pressure of liquid, gas or steam, and then convert it into 4...20 mA signal output. The working principle of MST24 double flange differential pressure transmitter is the same as MST22 differential pressure transmitter

except that the pressure transmission path on the positive pressure side is slightly different, that is the pressure acting on the highpressure side firstly passes through the diaphragm and the filing liquid of the remote flange, and then pass to the transmitter body via capillary tube, and finally reach the high pressure side of measurement sensor.

Features

- Adopts MEMS monocrystalline silicon high-precision pressure sensor
- Fast response and high stability
- Convenient local current loop check function
- Various specifications of process connection can be selected according to requirements
- Provide standard HART bus communication mode perfect self-diagnosis and remote communicationSignal function

Technical parameter

specifications

The range is adjusted based on the standard zero point. The diaphragm is stainless steel 316L, and the filling liquid is silicone oil.

1)Reference accuracy of range adjustment

Includes linearity, hysteresis and repeatability from zero.

Linear Output	TD≤10	±0.2%	Nominal range: 40kPa, 250kPa 1MPa, 3MPa
Accuracy	10 < TD≤100	±0.02TD%	

Note: TD = Turn down

$|URV| \geq |LRV|$, TD=URL/|URV|

$|URV| \leq |LRV|$, TD=URL/|LRV|

2)Power impact

When the power supply voltage changes within 12 ~ 36V DC, the change of zero point and range does not exceed ±0.005% of the upper limit of the range/V, which can be ignored.

Functional specifications

1)Range limits

Range can be adjusted by turn down adjustment within URL and LRL. Such as for URL/LRL -40 ~ 40 kPa, TD=10, range can be 0 ~ 4kPa or -4 ~ 4kPa. Turn down should be as low as possible to ensure accuracy. In general, turn down is within 10, too big will affect accuracy

2)Range and scope

Range/URL/LRL		KPa	Turndown ratio
C	Range	1...40	1...40
	URL/LRL	-40...40	
D	Range	2.5...250	1...100
	URL/LRL	-250...250	
E	Range	10...1000	1...100
	URL/LRL	-500...1000	
F	Range	30...3000	1...100
	URL/LRL	-500...3000	

3)Zero point setting

Zero point and range can be adjusted to any value within the measuring range in the table, as long as: calibration range ≥ minimum range.

4)Installation position influence

It can be installed at any position through the liquid level flange. The best state is to keep the process flange in a vertical state. The offset caused by the position

deviation can be corrected by clearing the operation.

5)Output

Signal	Type	Output
4...20mA	Linear	Two-wire
4...20mA+HART	Linear	Two-wire
RS485	Linear	Four-wire

6)Alarm current

- Low alarm model (Min):3.8mA.
- High alarm mode(Max):20.8mA.
- Alarm current standard setting: high alarm mode.
- Non-alarm mode (maintain): maintain the current practical value before the fault.

7)Response time

- The total damping constant time equal to the sum of the damping time constant of the electronic circuitcomponents and the sensing bellows.
- Electronic circuit component damping time: 0-60S range adjustable.
- Sensing bellows damping time: ≤0.2S.
- Power-on start-up time after power failure: ≤5S.
- Data recovery to normal usage time: ≤2S.

8)Ambient temperature

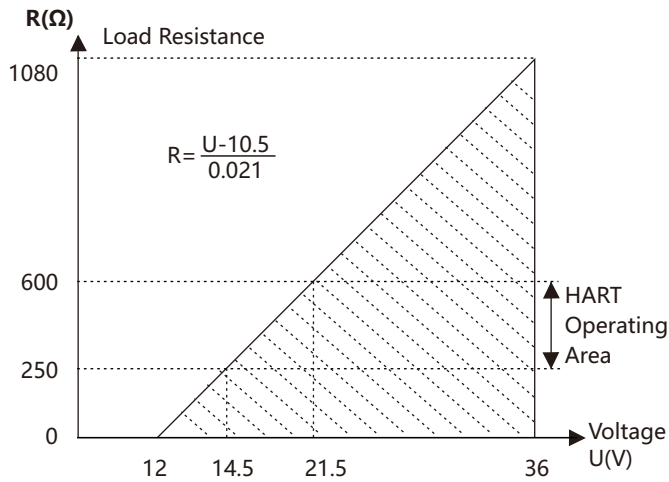
Item	Operating conditions
Working temperature	-20...+70°C[-4...+158°F] with display
Storage temperature	-40...+85°C[-40...+185°F]
Measuring medium temperature range	Silicon oil filled sensor: -40...+120°C[-40...+248°F]
Working humidity	5...100%RH@40°C
Production grade	IP65
Dangerous place	ExdIICT6

Installation

1)Power supply and load conditions

Item	Operating conditions
Standard/	14.5...36VDC
Flameproof	communication load:250...600Ω
RS485	12...36VDC

Electrical connection

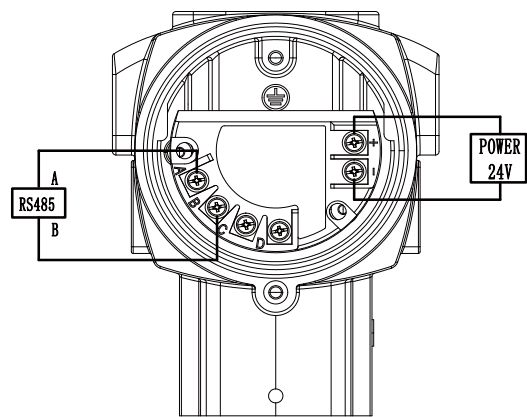
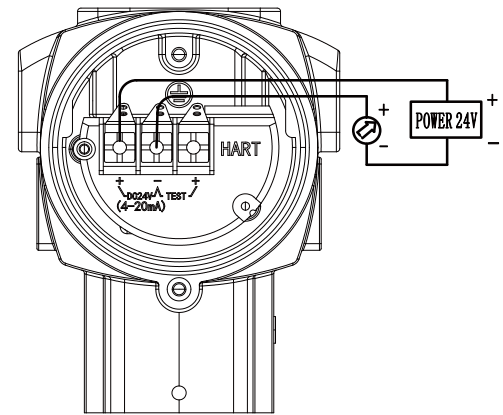


2) Electronic Connection

Type	Directions
Electrical connection	Junction box is Aluminum alloy with two outlets M20 *1.5 Female. Main body is blue. Shell cover is white.
Outlet protection	One end is equipped with M20*1.5 waterproof connector, the other end is equipped with plug PVC material, applicable wire diameter 6-8 mm protection grade IP65.
	Explosion-proof configuration, one end is equipped with NPT1/2 female thread , the other end is equipped with plug, stainless steel material applicable wire diameter 6-8 mm, protection grade IP65.
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Physical specifications

Sensor case	Stainless steel 316L
Diaphragm	316L, Hastelloy, Tantalum, PTFE Coating
Process flange	Stainless steel 304, stainless steel 316L
Nuts and bolts	Stainless steel(A4), Color zinc
Sealing ring	NBR,FKM,EPDM
Transmitter shell	Aluminum alloy
Shell seal	NBR
Name plate	Stainless steel 304



Dimensions in mm(in)

