Differential Pressure Transmitter-DP

Range

Nominal range	Minimum range	Lower (LRL)	Upper (URL)	Line pressure range	One-sided high pressure overload	One-sided low pressure overload
20mbar	2mbar	-20mbar	20mbar	420bar	250bar	250bar
60mbar	2mbar	-60mbar	60mbar	420bar	250bar	250bar
0.4bar	4mbar	-0.4bar	0.4bar	420bar	250bar	250bar
2.5bar	25mbar	-2.5bar	2.5bar	420bar	250bar	250bar
10bar	0.1bar	-10bar	10bar	420bar	250bar	250bar
30bar	0.3bar	-30bar	30bar	420bar	250bar	250bar
100bar	1bar	-3MPa	100bar	420bar	200bar	200bar

LRV/URV setting: LRV and URV are achieved between the upper and lower limits.

If URV≥LRV, URV must be larger than the minimum pressure.

If URV ≤LRV, LRV must be larger than the minimum pressure.

Accuracy

Linear output accuracy	TD ≤ 5	0.075%	20mbar, 60mbar, 100bar
		0.05%; 0.075%	0.4bar, 2.5bar, 10bar, 30bar
	TD>5	± (0.001+0.0148TD) %	20mbar, 60mbar
		± (0.0275+0.0095TD) %	0.4bar, 2.5bar, 10bar, 30bar, 100bar

Specifications

Accuracy	±0.05%、±0.075%URL
Range	20mbar to 100bar
Turn down ratio	100:1
Stability	±0.2%SPAN/10 years
Ambient temperature effects	At 60mbar, the total effect per 10℃ is (0.1+0.05TD)% SPAN; For other ranges: total effect per 10℃ is (0.075+0.0375TD)% SPAN
Voltage effects	When the power supply voltage changes within 18.3V to 44VDC, its zero point and range change should not exceed ± 0.005% SPAN/V
Mounting position effects	Less than 4mbar at any position, which can be corrected by Primary Value = 0 reset
Vibration effects	< 0.1% SPAN as per GB/T18271.3/IEC61298-3
Output signal	4mA~20mA DC，HART
Protection class	IP67
Weight	About：4kg

Environmental conditions

Items	Conditions	
Operating temperature	-50℃ ~85℃, With LCD display：-40℃ ~70℃	
Storage temperature	-50℃ ~100℃, With LCD display：-40℃ ~85℃	
Sensor operating temperature	-40℃ ~105℃	
Medium temperature	Silicone oil filled：-40℃ ~200℃	Fluorocarbon oil 1：-20℃ ~110℃
	Low temperature silicone oil：-55℃ ~200℃	Fluorocarbon oil 2：-55℃ ~85℃
Operating humidity	5%RH~100%RH@40℃	

Power supply and load requirements

Items	Conditions
Power supply voltage	HART communication protocol：18.3V~44V DC
	Intrinsically safe HART communication protocol：18.3V~30V DC
Load resistance	0Ω~1476Ω 250Ω~800Ω for HART communication
Transmission distance	< 1000m
Power consumption	
4mA~20mA	≤ 500mW@24V DC，20.8mA

EMC Effects

No.	Test items	Basic standards	Test conditions	Performance ability
1	Radiated interference（housing）	GB/T 9254.1/CISPR 32	30MHz~1000MHz	Qualified
2	Conducted interference（DC power port）	GB/T 9254.1/CISPR 32	0.15MHz~30MHz	Qualified
3	Electrostatic discharge immunity test	GB/T 17626.2/IEC61000-4-2	8kV(contact)，15kV(air)	B
4	Immunity to radio frequency EM-fields	GB/T 17626.3/IEC61000-4-3	10V/m (80MHz~1GHz)	A
5	Power frequency magnetic field immunity test	GB/T 17626.8/IEC61000-4-8	30A/m	B
6	Electrical fast transient/Burst Immunity test	GB/T 17626.4/IEC61000-4-4	4kV(5/50ns,100kHz)	B
7	Surge immunity requirements	GB/T 17626.5/IEC61000-4-5	2kV(line to line) 4kV(line to ground)（1.2/50μs）	B
8	Immunity to conducted disturbances induced by radio frequency fields	GB/T 17626.6/IEC61000-4-6	3V(150kHz~80MHz)	A

Static pressure effects

Range	Effects
Range ≤0.1bar	δ≤±0.5%F.S./100bar
0.1bar < Range ≤0.4bar	δ≤±0.1%F.S./100bar
2.5bar≤Range ≤10bar	δ≤±0.075%F.S./100bar
30bar≤Range ≤100bar	δ≤±0.15%F.S./100bar

Time index

Damping time constant: equals to the combined time of electronic components and sensor module
Electronic components damping time: 0s to 100s configurable
Sensor module damping time: (sensor isolated diaphragm and filled silicone oil): ≤ 0.2s
Turn-on time: ≤ 6s
Factory reset time: ≤ 31s
Response time: ≤ 100ms