

General Introduction

HH Series Capacitance Type Transmitter

FEATURES

- High accuracy
- No mechanical and movable parts, little repair work
- Span and zero continuous and adjustable from outside
- Good stability
- Positive shift amount to 500%; negative shift 600%
- Two-wire system 4~20mA DC
- Damping adjustable, overpressure protection
- Solid components, patch-type printed circuit board
- Explosion-proof structure
- Unified structure, strong interchangeability of parts
- Miniaturization (total height 166mm)
- Diaphragm materials of contacting mediums option (316L, TAN, HAS-C, MONEL, etc.)
- smart HART protocol

FUNCTION PARAMETERS

- ▲ Service: liquid, gas and steam
- ▲ Measuring range : 0~0.06 kPa to 0~40Mpa
- ▲ Output signal : 4~20mA DC (four-wire 220V AC power supply, 0~10mA DC output for special)
- ▲ Power supply : 12~45V DC, generally 24V DC
- ▲ Features of loading: relation equation of loading impedance RL and power voltage
 $V_s: RL \leq 50(V_s - 12)$
- ▲ Indicator : pointer-type linearity indication 0~100% scale mark or LCD indicator, LED indicator.
- ▲ Explosion proof : a. explosion isolation d II BT4
b. intrinsically safe ia II CT6
- ▲ Positive and negative - turn down ratio 20:1)
Maximum positive shift is 500% of minimum adjusting span; maximum negative shift is 600% of minimum adjusting span
- ▲ Temperature range: Operation temperature range: -29 ~ +93C
(LT type: -25 ~ +70C); measuring component filled with silicone oil: -40 ~ +104C,
Flange type transmitter filled with hi-temperature silicone oil: -20 ~ +315C,
Normal silicone oil: -40 ~ +149C
- ▲ Static pressure : 4, 10, 25, 32Mpa
- ▲ Humidity : relative humidity 0~100%

- ▲ Volume absorption : < 0.16cm³
- ▲ Damping (phase step response) : For silicone oil, generally between 0.2s and 1.67s, continuous

TECHNICAL DATA

(no shift, under standard operation conditions, fill silicone oil, 316 SS diaphragm)

1. Accuracy class: +/-0.25%, +/-0.5% (smart type: +/-0.1%, +/-0.075%)
2. Dead zone: none (<=0.1%)
3. Stability : within 6 months not beyond absolute value of basic error of maximum span
4. Vibration effect: at vibration frequency of 200 Hz, error is +/-5%/g of upper limit of measuring range.
5. Power effect : < 0.005%/V error of output span
6. Loading effect : no effect from loading at stable power
7. Effect of installation position : at most 0.24kPa of zero error, no effect on span

OTHER

1. Diaphragm: 316 SS, HC -276, Monel or Ta
2. Exhaust/vent Valve: 316 SS, HC or Monel
3. Flange and Connector: 316 SS, HC or Monel
4. Contacting medium "O" ring: acrylonitrile-butadiene rubber, fluorine rubber
5. Fill liquid: silicone oil or inert oil
6. Blot: 316 SS
7. Electronic Body Material: low copper-aluminum alloy
8. Ignition Voltage Connection Fit : flange NPT 1/4, center distance 54mm; connector NPT 1/2 or M20 x1.5 male round-cone surface sealed, when carrying connector the center distance 50.8, 54, 57.2mm (NPT taper thread accords with GB/T12716-91)
9. Signal line connecting hole : G 1/2"
10. Weight : 2.4 kg (standard type)

TRANSMITTER SELECTION

The following sheet illustrates the model constitution of our products in detail. Users can easily select product models according to this sheet.

Code	Name	
HH		
	Code	Directions
	0	Subatmospheric pressure
	1	Gauge pressure (differential pressure and static pressure is 0.4 Mpa for span formula 1,2)
	2	Absolute pressure
	3	Differential pressure static pressure 2.5 MPa
	4	Differential pressure static pressure 4MPa

5	Differential pressure	static pressure 6.4MPa
6	Differential pressure	static pressure 16 MPa
7	Differential pressure	static pressure 25MPa
8	Differential pressure	static pressure 32 MPa
9	Differential pressure	static pressure 40MPa
Code		Measuring range
1		0-0.06~0.3kPa
2		0-0.25~1.5kPa
3		0-1.2~7.2kPa
4		0-6~36kPa
5		0-30~180kPa
6		0-160~1000kPa
7		0-400~2500kPa
8		0-1600~10000kPa
9		0-4000~25000kPa
0		0-7000~40000kPa
Code		Type1
0		Standard type
1		Single flush flange
2		Double flush flange
3		Single insertion flange
4		Double insertion flange
5		One-flush & one-insertion flange
Code		Type 2
0		Popularization type
1		Normal smart type (HART communication)

ACCESSORY AND MATERIAL CODES

Code	Implication
M1	Pointer-type linearity indication 0-100% scale
M2	Digital indicator
E1	Ordinary cable connector
E2	Flame proof cable connector
B1	Bent bracket for pipe mounting
B2	Bent bracket for plate mounting
B3	Flat bracket for pipe mounting
G1	Waist-shaped flange
G2	Welding pipe adapter
G3	Integral 3-valve manifold
i	Intrinsically safe

d	Explosion isolation			
G	≤200 °C (silicon oil with high temperature)			
Standard Type	Structure material			
	Erosion proof material	Flange connector	Drain/vent valve	Isolation diaphragm
	F12	Carbon steel	316 L	316 L
	F13	Carbon steel	Hastelloy C	Hastelloy C
	F14	Carbon steel	Monel	Monel
	F15	Carbon steel	316 L	Titanium
	F22	316 L	316 L	316 L
	F23	316 L	316 L	Hastelloy C
	F24	316 L	316 L	Monel
	F25	316 L	316 L	Titanium
	F26	316 L	316 L	Hastelloy B
	F33	Hastelloy C	Hastelloy C	Hastelloy C
	F35	Hastelloy C	Hastelloy C	Titanium
	F44	Monel	Monel	Monel
	F47	Monel	Monel	3YC25

Remarks: ①F22 is standard equipment ②linearity, evolution output is controlled by software, optional for user.