EST4300-HP Smart High-Static Differential Pressure Transmitter

Product Introduction

EST4300 High-static differential pressure transmitter is used for measuring the level, flow and pressure in liquid, gas and vapor service. Featuring long-term stability and reliability, EST4300-HP is applied in petrochemical industry and the high pressure devices at power stations.

EST4300-HP, which is compatible with HART 475 field communicator, is used to measure the level, density, and pressure in liquid, gas, and vapor service, and convert it to 4-20mAdc current signal outputs.

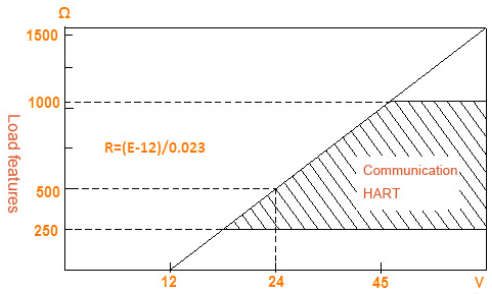
Applications

- Electricity
- Water Conservancy
- Metallurgy
- Environmental Protection
- Petrifaction
- Pharmacy
- Paper-making
- Furnace

Technologies

Service	Liquid, gas, and vapor service		
Output Signal	Two-wire 4～20mA dc output, superimposed on HART digital signal; square root output: for input pressure between1.0%~100%, the output is in square root relationship to the differential pressure; for input pressure between 0%~0.1%, the output is in linear relationship with the differential pressure. User-selectable linear or square root output based on the field conditions.		
Power Supply	External Power Supply 24V dc; Power supply range 12V~45V	Measuring Range	
Installation Locations:	Explosion-Proof ExdIIBT5; Intrinsic Safe ExiaII CT5	4	0-4.0～40kPa(0-400～4000mmH2O)
Zero shift	At minimum span, the maximum positive zero shift is 0.975 * URL, the maximum negative zero shift could be the LRL. (After positive/negative shift, neither the URL or the LRL may exceed the limits of the span no matter what the output is.)	5	0-20～200kPa(0-2000～20000mmH2O)
		6	0-70～700kPa(0-0.7～7kgf/cm2)
		7	0-210～2100kPa(0-2.1～21kgf/cm2)
Temp. Limits	Electronics Temperature Operating Limits: -40～85℃ Sensing Element Operating Limits: -40～104℃; Memory Temperature: -40～85℃ Digital Display: -20～65℃ (normal operating); -40～85℃ (Non-Destructive)		

Static Pressure and Overpressure Limits	Maximum working static pressure: 4MPa, 25MPa, 32MPa Maximum flange pressure: 150% of URL Flange rating: 68.9 MPa Operating Pressure range is between 1.0kPa (absolute pressure) and URL.

Load Limitations		
	Damping	Time constant: 0.2～32.0s
	Volumetric Displacement	Less than 0.16 cm3
	Relative Humidity	0～100%
	Booting Time	3s, No warm up

Performance

Under the condition of non-transference, 316 SST isolating diaphragm and others

Rangeability	40：1
Precision	For span between1:1 and 10:1, accuracy=±0.15% of Calibrated Span For span between10:1 and 40:1, accuracy=±0.075(1+0.1 URL/Span)% of Span
Stability	Maximum Span ±0.15%12months(exclude other ambient effects)
Temperature Effect	Zero Temperature Error per 55℃= ±0.25 of URL; Total Temperature Error per 55℃ (Zero and Span)= ±0.5 of URL
Overpressure Effect	Zero changes after applying31.2MPa unidirectional pressure: For range 4, less than ±1.0% of the maximum span; for range 5, less than the ±2.0% of the maximum span; for span 6 and 7, less than the ±5.0% of the maximum span.
Static pressure Effect	Applying31.2MPa static pressure, the zero error is less than ±0.25% of the maximum span, and the span error is -1.0±2.5%/6.9MPa of the span. These are systematic errors which can be eliminated through calibration based on actual measurement before installation.
Power Supply	Less than ±0.005% of calibrated span per volt.
Vibration Effect	For vibration of 200Hz in any axis, the error caused is ±0.05%/g of the maximum span
Load Effect	No load effects in the working area when the voltage transferred to transmitter is higher than 12V.
Mounting position effects	Zero shifts up to 0.25kPa, which can be calibrated out. No span effect.
Electromagnetic Radiation	Conform to IEC801 standards

Constructions

Wetted Part Materials	Isolating Diaphragm	316 SST, Alloy C, Monel and Tantalum
	Drain/Vent Valves	316 SST, Alloy C and Monel
	Flange and	316 SST, Alloy C and Monel

	O-rings:	Fluororubber, NBR		
Non-Wetted Parts	Fill Fluid	Silicone		
	Bolt	Zinc Plated CS		
	Electrical housing	Low copper aluminum		
	O-rings:	NBR		
Impulse Piping Connections	Flange Taps	1 / 4—18NPT		
	Process connection	1 / 2—14NPT	Electrical Connections	1 / 2—14NPT threaded end conduit
	Flange Mounting	M10*1.5	Weight	3.5 kg (Options not included)

Ordering Information

EST4300-HP	Smart High-static Differential Pressure Transmitter
Code	Rang
4	0-4.0～40kPa(0-400～4000mmH2O)
5	0-20～200kPa(0-2000～20000mmH2O)
6	0-70～700kPa(0-0.7～7kgf/cm2)
7	0-210～2100kPa(0-2.1～21kgf/cm2)

Code	Output Type
E	Linear Output 4-20mAdc
S	Linear/Square root Output 4-20mAdc+HART signal
F	Fieldbus Signal

Code	Construction Materials			
	Flange Adapter	Drain/Vent Valves	Isolating Diaphragm	Fill Fluid
12	CS	CS	316 SST	Silicone
14	CS	CS	Monel	
22	316 SST	316 SST	316 SST	

Code	Impulse Piping Connection Style
L1	1/4NPT-18 Female Thread (Standard Slotted Connector not Included)
L2	1/2NPT-14 Female Thread
L3	M20×1.5 Male Thread

Code	Options
M1	0～100% Linear Meter
M4	LCD Digital Meter
B1	Pipe Mounting Bracket
B2	Panel Mounting Bracket
B3	Pipe Mounting Bracket
D1	Side-mounted Drain/Vent Valve (TOP)
D2	Side-mounted Drain/Vent Valve (TOP)
X1	Oil Forbidden
Da	Explosion-Proof ExdsIIBT5
Fa	Intrinsically Safe ExiaIICT5

EST4300HP	6	S	22	L1	M4B3X1	0～500kPa