

EST4300-DP Smart Differential Pressure Transmitter

Product Introduction

EST4300-DP pressure transmitter is microprocessor-based measuring instrument. With microprocessor technology-enabled temperature and nonlinear compensation, EST 4300-DP features higher measurement accuracy, better temperature characteristic, and long-term stability and reliability.

EST4300-DP, 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 4-20mA dc current signal outputs.

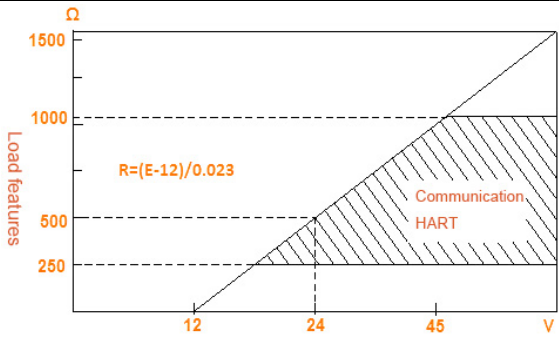


Applications

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

Technologies

Service	Liquid, gas, and vapor service	Measuring Range	
Output Signal	Two-wire 4~20mA dc output, superimposed on HART digital signal; user-selectable for linear or square root output.	2	0-0.10~1.5kPa(0-10~150mmH2O)
		3	0-0.7~7.0kPa(0-70~700mmH2O)
		4	0-4.0~40kPa(0-400~4000mmH2O)
Power Supply	External Power Supply 24V dc; Power supply range 12V~45V	5	0-20~200kPa(0-2000~20000mmH2O)
Installation Locations:	Explosion-Proof ExdIIBT5; Intrinsic Safe Exiall CT5	6	0-70~700kPa(0-0.7~7kgf/cm2)
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.) For square root output, the positive/negative shift can calibrate 10% of the flow span.	7	0-210~2100kPa(0-2.1~21kgf/cm2)
		8	0-700~7000kPa(0-7.0~70kgf/cm2)
		9	0-2.1~21MPa(0-21~210kgf/cm2)

Temp. Limits	<ul style="list-style-type: none"> Electronics Temperature Operating Limits: -40~85°C Sensing Element Operating Limits: -40~104°C; Memory Temperature: -40~85°C Digital Display: -20~65°C (normal operating); -40~85°C (Non-Destructive) 	
Overpressure Effect	Applying pressure of 140kgf/cm ² , error=±0.25% of the URL	
Static pressure effect	Zero error at linear output:applying static pressure 140kgf / cm ² ,for range 4 and 5, zero error =±0.25% of maximum span;for range 3,6,7 and 8, zero error =±0.5% of maximum span. The error is systematic and can be eliminated by the zero trim based on actual static pressure.	
Load Limitations	Damping	Time constant: 0.2~32.0s
	Volumetric Displacement	Less than 0.16 cm ³
	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	Span 3, 4, 5	Span 6, 7, 8, 9
	For span between 1:1 and 10:1, accuracy=±0.1% of Calibrated Span; For span between 10:1 and 40:1, accuracy=±0.05(1+0.1 URL/Span)% of Span.	For span between 1:1 and 10:1, accuracy=±0.15% of Calibrated Span; For span between 10:1 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°C = ±0.25 of Maximum Span; Total Temperature Error per 55°C (Zero and Span)= ±0.5 of maximum span. Note, for range 3, the temperature error is doubled. The error for analog model is also doubled.	
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	Conform to IEC801 standards	

Constructions

Wetted Part Materials	Isolating	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	1 / 2—14NPT		
	Flange Mounting	M10*1.5		
Electrical Connections	1 / 2—14NPT threaded end conduit		Weight	3.5 kg (Options not included)

Ordering Procedure

EST4300-DP	Smart Differential Pressure Transmitter			
	Code	Rang		
	2	0-0.10~1.5kPa(0-10~150mmH2O)		
	3	0-0.7~7.0kPa(0-70~700mmH2O)		
	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)		
	8	0-700~7000kPa(0-7.0~70kgf/cm2)		
	9	0-2.1~21MPa(0-21~210kgf/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
	12	CS	CS	316 SST
	14	CS	CS	Monel
	22	316 SST	316 SST	316 SST
	23	316 SST	316 SST	Hastelloy Alloy C
	24	316 SST	316 SST	Monel
	25	316 SST	316 SST	Tantalum
	33	Hastelloy Alloy C	Hastelloy Alloy C	Hastelloy Alloy C
	35	Hastelloy Alloy C	Hastelloy Alloy C	Tantalum
	44	Monel	Monel	Monel
				Silicone
	Code	Impulse Piping Connection Style		
	L1	1/4NPT-18 Female Thread (Standard Slotted)		
	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 ExialICT5
EST4300DP	3	S	24	L1	M4B3X1	0~3kPa	