

Model ALDPT-MV Series

GENERAL

SMARTMEASUREMENT's ALDPT-MV measures three separate process variables simultaneously and provides dynamic calculation of fully compensated mass flow rate for steam and liquids respectively and standard volume flow for gases. It measures differential pressure and absolute pressure from a single sensor and process temperature from a standard PT 100 Resistance Temperature Detector (RTD). Flow calculations include compensation of pressure and/or temperature as well as more complex variables such as discharge coefficient, thermal expansion, Reynolds number and compressibility factor.

The ALDPT-MV includes flow equations for steam, gases and liquids so that one model is all you need in your system. It can also measure static pressure with both integral or remote electronics Many plants calculate mass flow in a host computer using a simplified mass flow equation. The ALPDT-MV provides full compensation of over 25 different parameters to achieve a 5x improvement in flow performance compared to uncompensated DP flow. The ALDPT-MV is ideally suited to work with SMC's ACONE primary flow elements.

FEATURES

- Multi-functional: a single transmitter for up to three measured parameters
- Used for level and flow measurement of gas, liquid and steam •
- Modular: Interexchangeable electronics with self-reconfiguration
- Advanced diagnostics capabilities
- Process value and alarms
- Convenient: configurable via local operating keypad
- Linearization for primary elements
- Analog 4~20 mA _{DC} two wire linear output
- HART protocol •
- Mass and standard volume flow in accordance with AGA 3 or DIN EN ISO 5167
- Dynamic flow correction with continuous calculation of Reynolds's Number and flow

SPECIFICATIONS

Measuring Range:

.

- Differential: 200Pa ~ 2000 kPa Absolute: up to 40 MPa
- Fluids: Liquid, Gas and Steam
- -4°F ~ 752°F (-20°C~ 400°C) Temperature:
 - 0.5% of reading, 0.2% optional Accuracy:
- Turn-down: 100:1 . Drift (Micro): 0.1%FS/3 years •
- Relative humidity: 0~100% RH
- O ring material: Perbunan, Viton, Teflon Filled fluid: .
- Silicon oil or inert oil
- Start time: <15 seconds after power up .
- Storage temperature: -4°F ~ 150°F (-20°C~ 400°C)

- Bolts:
- **Electrical Enclosure:**
- Approvals:
- Output signal: Power supply:

Protection:

Weight:

- Stainless Steel Low Copper Aluminum Alloy
- Isolated explosion ExdIIBT5 or ExdIICT6 Intrinsic safety ExialICT6 or ExibIICT6
- 4 ~ 20 mA _{DC}
- 24 V_{DC} supply,
 - R≤(Us-12V)/ I_{max} kΩ, I_{max} =23 mA Voltage up to $42V_{DC}$ Min to $12V_{DC}$ $15V_{pc}$ (with display) 230Ω to 600Ω for digital communication IP67/NEMA 6
- 8 lb (does not include options)





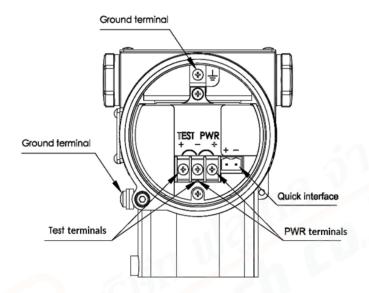


ALDPT-MV Multivariable Different Pressure Transmitter

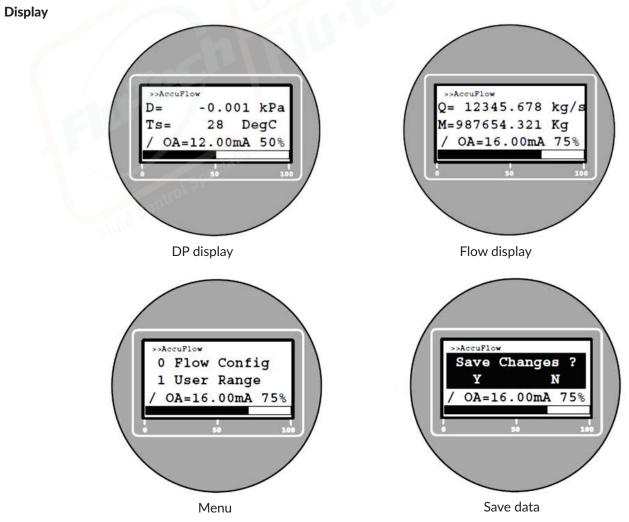
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DIMENSIONS

Terminal Configuration



Note: Quick interface functionally equivalent to the signal terminal

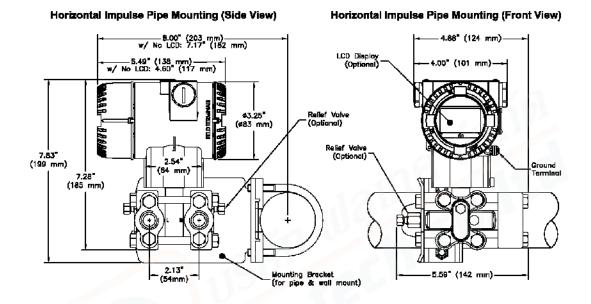




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OTHER ACCESSORIES

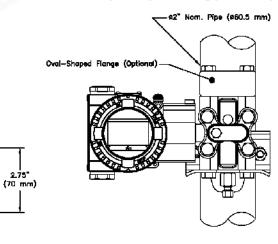


Vertical Impulse Pipe Mounting (Front View)

N/ No LCD: 8.10° (155 mm)

4.33" (110 mm)

Horizontal Impulse Wall Mounting (Side View)







ALDPT-MV Multivariable Different Pressure Transmitter

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TYPE OF FLUID PRESSURE & TEMPERATURE

TYPE OF ELECTRONICS

Please provide the name of your fluid, including operating density and viscosity Please provide the working temperature, pressure measuring range and connection

Please provide the required output and communication

ALDPT

EXAMPLE: ALDPT-MV-3-2-22-S-M1-N-S-AI-1-N														
ALDPT-MV-	**_	**_	**_	**_	**-	**	**_	**_	**_	**_	DESCRIPTION			
0~0.2~6KPa	3		1			1	1		1					
0~0.4~40KPa	4	1												
0~2.5~250КРа	5	-									Measuring Range			
0~20~2000KPa	6													
0.25 MPa		1					- 7		77					
2 MPa	2							Static Pressure						
10 MPa		3	-							Sensor				
40 MPa		4												
SS# 316L Isolation diaphragm, Fill fluid			22											
Hastelloy C Isolation diaphragm, Fill fluid 23											Construction			
SS# 316L Isolation diaphragm, Fill fluid		4	32								Material			
Hastelloy C Isolation diaphragm, Fill fluid	1		33											
4~20mA _{DC} with keystroke set up	1			S							Ouput Signal			
4~20mA _{DC} with keystroke and RS485														
No Display					M1				Display					
LCD Display w/backlighting					M4		1	_						
Perbunan (NBR)	-								Connector Gaske					
Viton (FKM)						F	-		(wetting part)					
Teflon (PTFE) P							1							
7/16-20 UNF and ¼-18 NPT female thread, no relief valve S							-	-			Drain/Vent Valve			
							B	-						
$\frac{1}{16}$ 20 UNF and $\frac{1}{4}$ -18 NPT female thread, Relief valves at upper part of the flanges T $\frac{1}{16}$ -20 UNF and $\frac{1}{4}$ -18 NPT female thread, Relief valves at lower part of the flanges U							-							
Standard (without explosion proof) S														
NEPESI Isolated explosion Ex ia								1	_		Approvals			
NEPESI Isolated explosion ExdIIBT5 or ExdIICT6								D	-					
ATEX Isolated Explosion Ex ia								AI						
ATEX Explosion Ex id								AD	-					
0.2%								2						
0.5%								5	1	Accuracy				
None										N				
SS #304 - bending bracket for pipe installation (2" pipe)										1	- Options			
Carbon steel galvanized - bending bracket for pipe installation (2" pipe)									2					
Connection adapter - SS# 304 oval-shaped flange with $\frac{1}{2}$ NPT female thread										3				
Connection adapter - SS# 304 D-shaped connector with M20x1.5 male thread										4				
Scrub for oxygen service (only for fluorinated oil, viton gasket, <6Mpa, <60°C)										0				
SS #304 2 way Valve Manifold - ½ NPT thread										2V				
SS #304 3 way Valve Manifold - ½ NPT thread										3V				
SS #304 5 way Valve Manifold - ½ NPT thread										5V				
SS #316 2 way Valve Manifold - ½ NPT thread								_		2VA	_			
SS #316 3 way Valve Manifold - ½ NPT thread										3VA	-			
SS #316 5 way Valve Manifold - ½ NPT thread										5VA				