Smart Measurement

ALDPT-MV

Multivariable Different , Pressure Transmitter

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 compressibilty 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

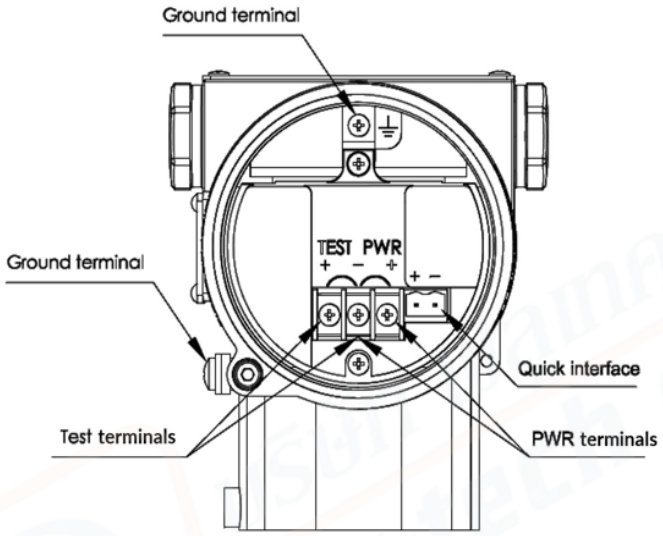
- Multi-functional: a single transmitter for up to three measured parameters
- Used for level and flow measurement of gas, liquid and steam
- Modular: Interexchangeable electronics with self-reconfiguration
- Advanced diagnostics capabilities
- Process value and alarms
- Convenient: configurable via 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
- Temperature: –4°F ~ 752°F (-20°C~ 400°C)
- Accuracy: 0.5% of reading, 0.2% optional
- 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: Stainless Steel
- Electrical Enclosure: Low Copper Aluminum Alloy
- Approvals: Isolated explosion ExdIIBT5 or ExdIICT6
  Intrinsic safety ExiaIICT6 or ExibIICT6
- Output signal: 4 ~ 20 mA $_{DC}$
- Power supply: 24 V_{DC} supply,
  R≤(Us-12V)/I_{max} kΩ, I_{max}=23 mA
  Voltage up to 42V_{DC} Min to 12 V_{DC}
  15V_{DC}(with display)
  230Ω to 600Ω for digital communication
- Protection: IP67/NEMA 6
- Weight: 8 lb (does not include options)

DIMENSIONS

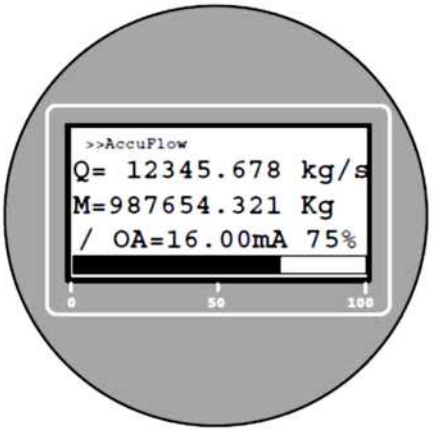
Terminal Configuration



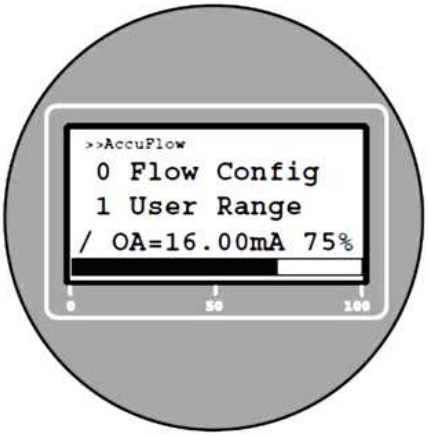
Note: Quick interface functionally equivalent to the signal terminal

Display

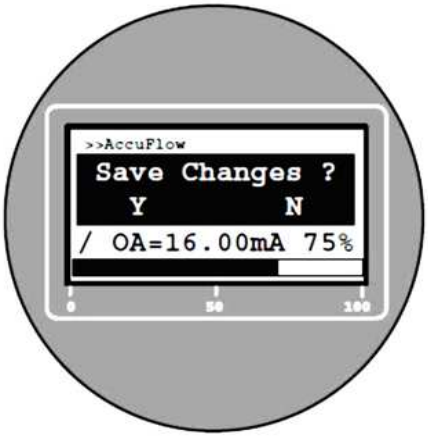
DP display



Flow display



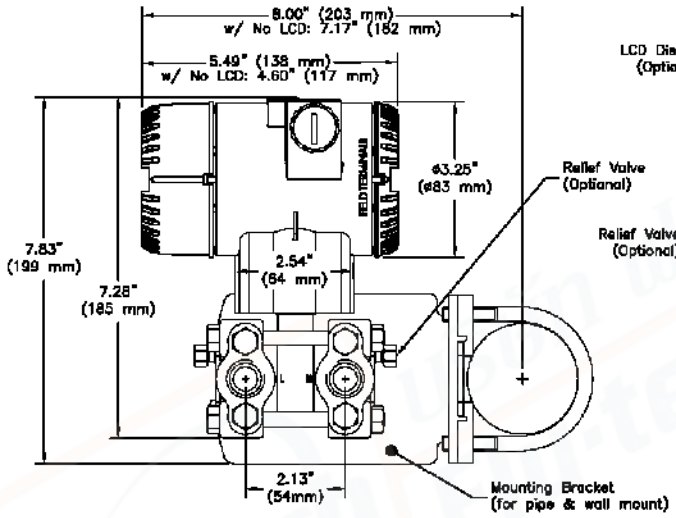
Menu



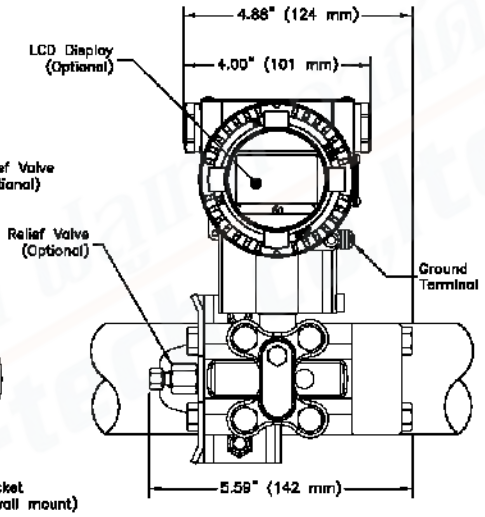
Save data

OTHER ACCESSORIES

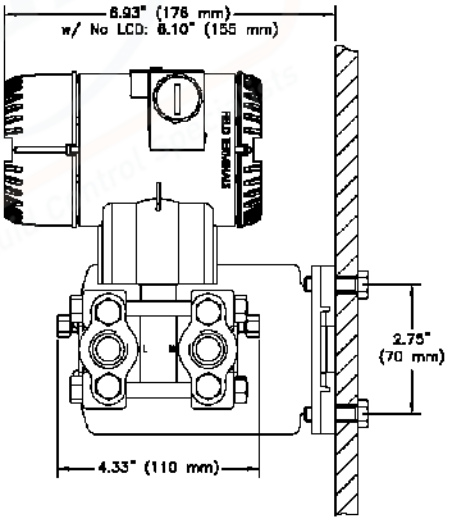
Horizontal Impulse Pipe Mounting (Side View)



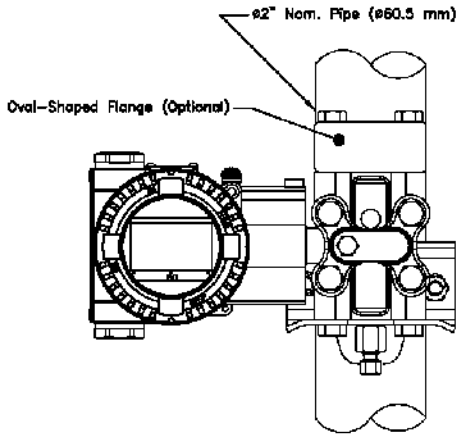
Horizontal Impulse Pipe Mounting (Front View)



Horizontal Impulse Wall Mounting (Side View)



Vertical Impulse Pipe Mounting (Front View)



Valve manifold (options)

ALDPT-MV

Multivariable Different , Pressure Transmitter

Model ALDPT-MV Series

TYPE OF FLUID	Please provide the name of your fluid, including operating density and viscosity
PRESSURE & TEMPERATURE	Please provide the working temperature, pressure measuring range and connection
TYPE OF ELECTRONICS	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										Measuring Range
0~0.4~40KPa	4										
0~2.5~250KPa	5										
0~20~2000KPa	6										
0.25 MPa		1									Static Pressure Sensor
2 MPa		2									
10 MPa		3									
40 MPa		4									
SS# 316L Isolation diaphragm, Fill fluid			22								Construction Material
Hastelloy C Isolation diaphragm, Fill fluid			23								
SS# 316L Isolation diaphragm, Fill fluid			32								
Hastelloy C Isolation diaphragm, Fill fluid			33								
4~20mA $_{DC}$ with keystroke set up				S							Ouput Signal
4~20mA $_{DC}$ with keystroke and RS485				I							
No Display					M1						Display
LCD Display w/backlighting					M4						
Perbunan (NBR)						N					Connector Gasket (wetting part)
Viton (FKM)						F					
Teflon (PTFE)						P					
7/16-20 UNF and ¼-18 NPT female thread, no relief valve							S				Drain/Vent Valve
7/16-20 UNF and ¼-18 NPT female thread, Relief valves at end of flanges							B				
7/16-20 UNF and ¼-18 NPT female thread, Relief valves at upper part of the flanges							T				
7/16-20 UNF and ¼-18 NPT female thread, Relief valves at lower part of the flanges							U				
Standard (without explosion proof)								S			Approvals
NEPESI Isolated explosion Ex ia								I			
NEPESI Isolated explosion ExdIIBT5 or ExdIICT6								D			
ATEX Isolated Explosion Ex ia								AI			
ATEX Explosion Ex id								AD			
0.2%									2		Accuracy
0.5%									5		
None										N	Options
SS #304 - bending bracket for pipe installation (2” pipe)										1	
Carbon steel galvanized - bending bracket for pipe installation (2” pipe)										2	
Connection adapter - SS# 304 oval-shaped flange with ½“ 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)										O	
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	