



# ALDPT

## Multivariable Different Pressure Transmitter

### Model ALDPT MV Series

## GENERAL

The ALDP-MV measures three separate process variables simultaneously and provides dynamic calculation of fully compensated mass flow rate for steam and liquids respectively 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 calculation includes compensation of pressure and/or temperature as well as more complex variables such as discharge coefficient, thermal expansion, Reynolds number and compressibility factor. The ALDP-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 and HART protocol. Many plants calculate mass flow in a host computer using a simplified mass flow equation. The ALDPMV provides full compensation of over 25 different parameters to achieve a 5x improvement in flow performance compared to uncompensated DP flow. The ALDPMV is ideally suited to work with SMC's Acone primary flow elements.

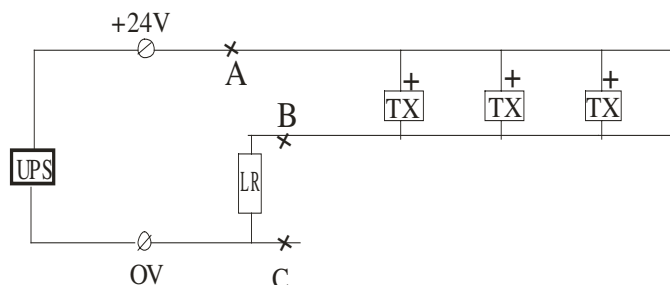
## FEATURES

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



## SPECIFICATION

- Measuring range:
  - Differential: 200Pa ~ 2000 kPa
  - Absolute up to 40 Mpa
- Fluid liquid, gas and steam
- Temperature: -40°C ~ 125°C
- Accuracy: 0.075%, 0.2%, 0.5%
- 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: -20°C ~ 65°C;
- Bolt: stainless steel
- Shell: low copper Aluminum alloy shell
- Approvals Isolated explosion ExdIIBT5 or ExdIICT6  
Intrinsic safety ExiaIICT6 or ExibIICT6
- Output signal: 4~20 mA DC
- Power supply: 24 V DC supply,  $R_s \leq (U_s - 12V) / I_{max}$  kΩ,  $I_{max} = 23$  mA.  
Voltage up to 42VDC, Min to 12VDC, 15VDC(with display)  
230Ω to 600Ω for digital communication
- Protection: IP67
- Weight: 3.5 kg (do not include selection)



Smartmeasurement™

Page 1

10437 Innovation Drive, Suite 315, Milwaukee, WI 53226 USA

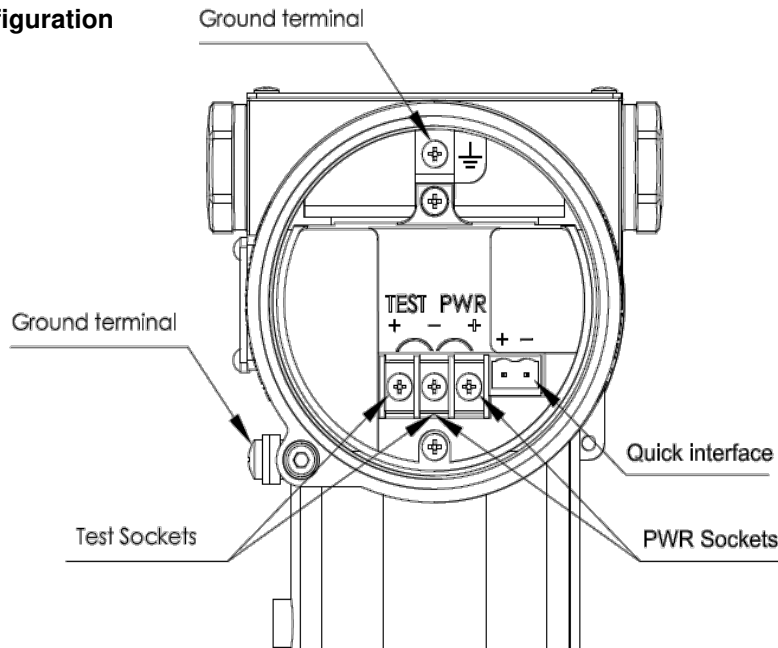
URL : <http://www.smartmeasurement.com>

TEL : +1- 866 - 404 - 5415 FAX : +1- 414 - 433 - 1606

E-mail : [sales@smartmeasurement.com](mailto:sales@smartmeasurement.com)

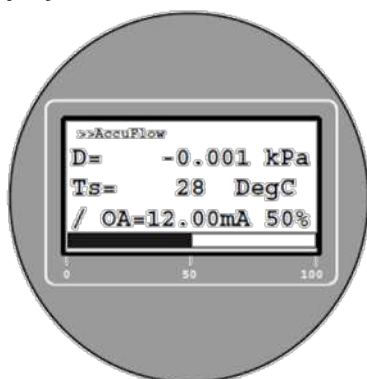
## **DIMENSIONS**

### • Terminal Configuration

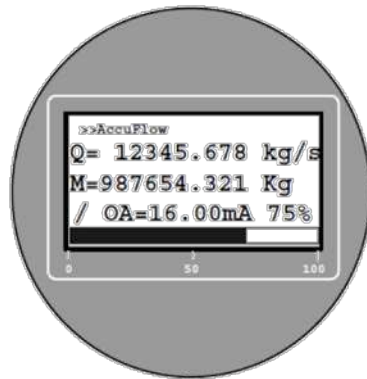


Note Quick interface functionally equivalent to the signal terminal

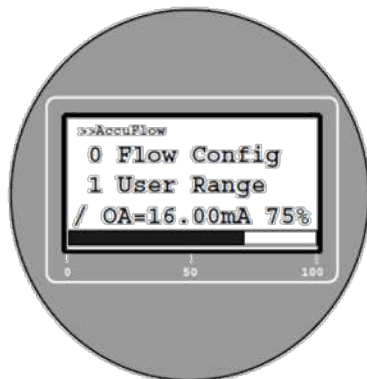
### • Display



DP display



Flow display



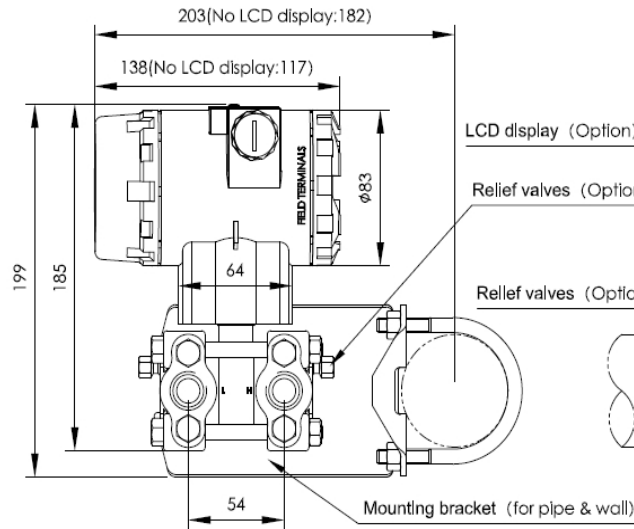
Menu



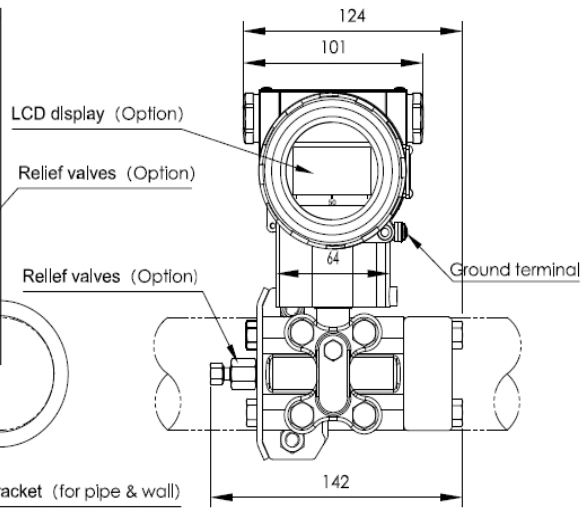
Save data

## OTHER ACCESSORY

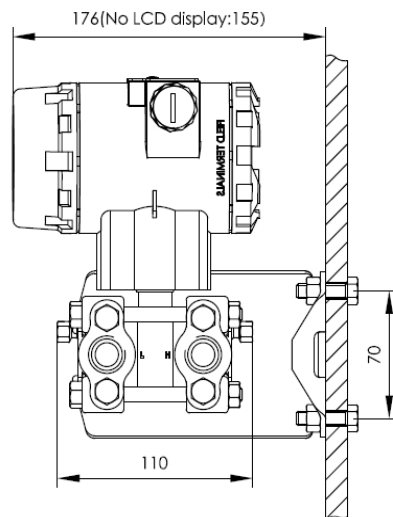
### Horizontal Impulse Piping Type (side face)



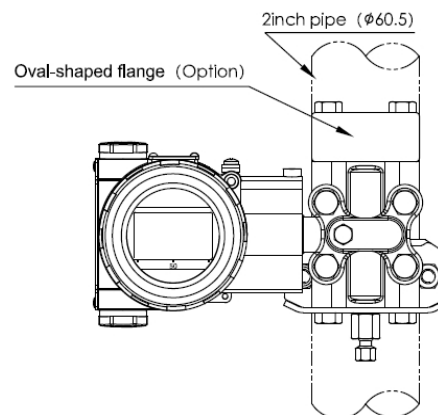
### Horizontal Impulse Piping Type (front side)



### Horizontal Impulse Wall mounting Type



### Vertical Impulse Piping Type



### Valve manifold (options)



## ALDPT

## Pressure Transmitter

Please contact your local SMC application engine

You also need to provide the following information:

Type of Fluid	We need the name of your fluid, including operating density and viscosity
Process Pressure and Temperature	Working temperate and pressure measure range.
Type of Electronics	output and connections
Pipe Material	We need the name of your pipe material

## ➤ Model Selection Guide

ALDPT															
ALDPT-MV-		**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	Description		
0-200Pa-6kPa（0-20-600 mmH2O）/（0-2-60mbar）		B											Span		
0-1kPa-40kPa（0-100-4000 mmH2O）/（0-10-400mbar）		C													
0-2.5kPa-250kPa（0-0.25-25 mH2O）/（0-25-2500mbar）		D													
0-20kPa-2MPa（0-2-200 mH2O）/（0-0.2-20bar）		E													
2MPa		2											Static pressure sensor		
10MPa		3													
40MPa		4													
Diaphragm Fluid													Materials		
316 SST Silicone oil		A													
316 SST Fluorinated oil		B													
Hastelloy C Silicone oil		C													
Hastelloy C Fluorinated oil		D													
Gold plated on 316L Silicone oil		E													
Gold plated on 316L Fluorinated oil		F													
EFP plated on 316L Silicone oil		G													
Tantalum Silicone oil		T													
Perbunan（NBR）				N								Process connector gasket			
Viton（FKM）				F											
Teflon（PTFE）				P											
4-20mA and no display					N								Display		
4-20mA and HART, LCD display					1										
4-20mA and HART, Backlight LCD display					2										
Standard（without explosion proof）							S						Approvals		
Isolated explosion ExdIIBT5 or ExdIICT6							D								
Intrinsic safety ExiaIICT6 or ExibIICT6（commonly choice）							I								
Reference Accuracy±0.075%									B					Accuracy	
Reference Accuracy±0.1%									C						
None									N					Mounting bracket	
304 stainless steel									1						
Carbon steel galvanized									2						
7/16-20 UNF and 1/4-18 NPT female thread, No relief valve										N					Process connections
7/16-20 UNF and 1/4-18 NPT female thread, Relief valves at end of flanges										B					
7/16-20 UNF and 1/4-18 NPT female thread, Relief valves at the upper part of the flange side										U					
7/16-20 UNF and 1/4-18 NPT female thread, Relief valve at the lower part of the flange side										D					
None										N					Process connector accessory
Stainless steel oval-shaped flange with 1/2 NPT female thread										1					
Stainless steel D-shaped connector with M20x1.5 male thread										2					