



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 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 and HART protocol. Many plants calculate mass flow in a host computer using a simplified mass flow equation. The ALDPT-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 values
- 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



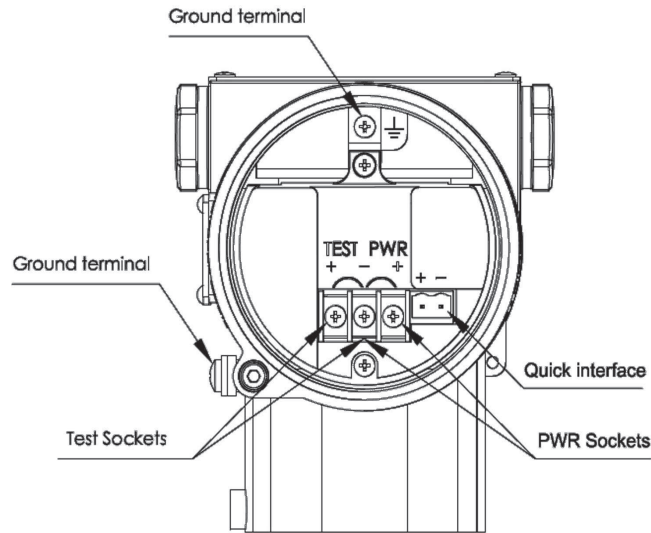
SPECIFICATIONS

- Measuring Range:
 - Differential: 200Pa ~ 2000 kPa
 - Absolute: up to 40 MPa
- Fluid: Liquid, Gas and Steam
- Temperature: -4°F ~ 752°F (-20°C~ 400°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: -4°F ~ 150°F (-20°C~ 400°C)
- Bolt: Stainless Steel
- Shell: Low Copper Aluminum Alloy Shell
- Approvals: Isolated explosion ExdIIIBT5 or ExdIICT6
Intrinsic safety ExiaIICT6 or ExibIICT6
- Output signal: 4 ~ 20 mA_{DC}
- Power supply: 24 V_{DC} supply,
 $R \leq (U_s - 12V) / I_{max}$ 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

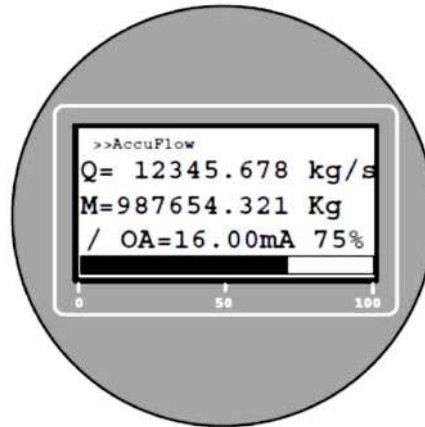


Note: Quick interface functionally equivalent to the signal terminal

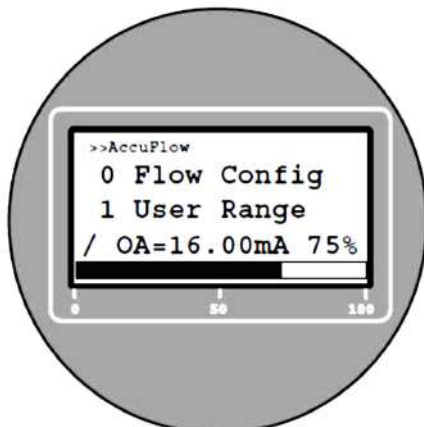
Display



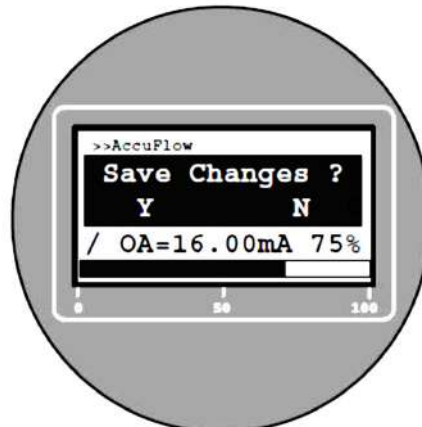
DP display



Flow display



Menu

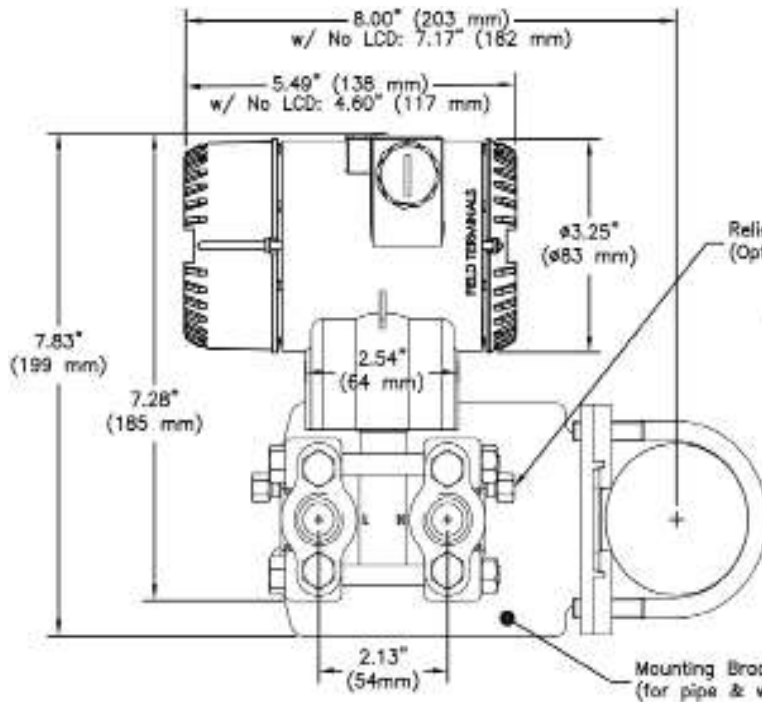


Save data

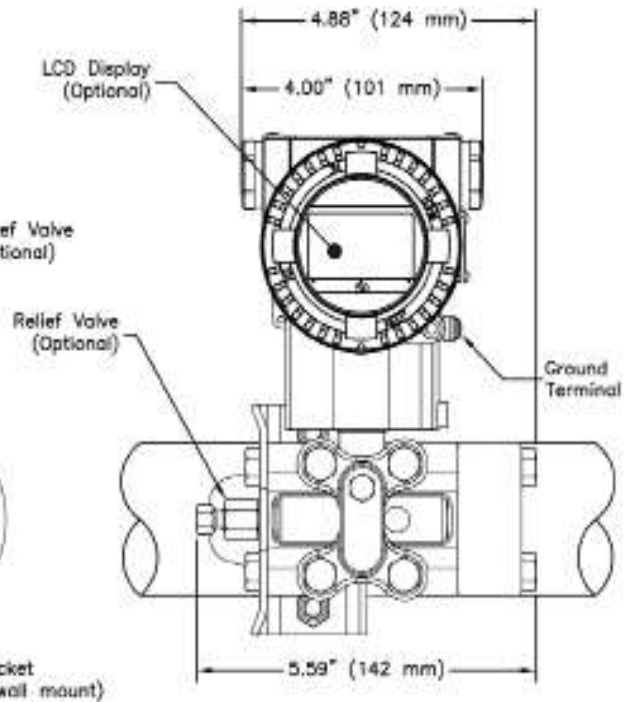


OTHER ACCESSORIES

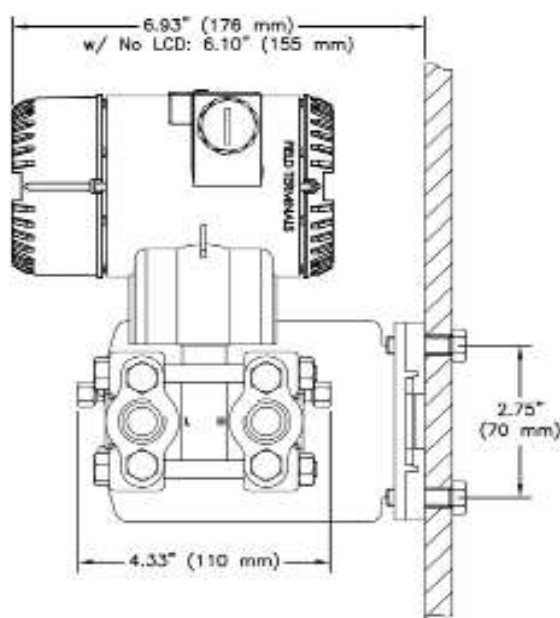
Horizontal Impulse Piping Type (side face)



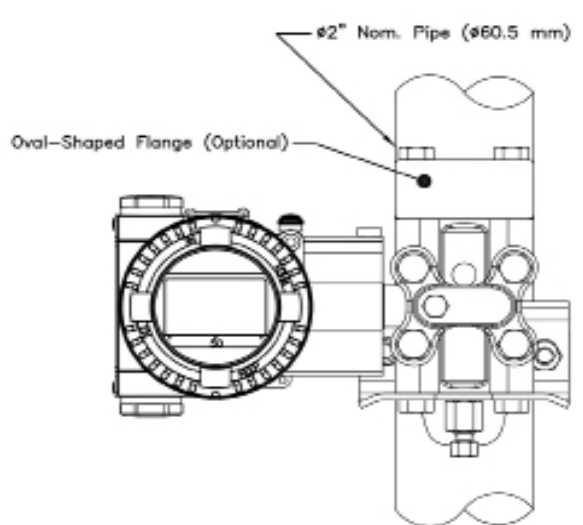
Horizontal Impulse Piping Type (front side)



Horizontal Impulse Wall mounting Type



Vertical Impulse Piping Type



Valve manifold (options)



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TYPE OF FLUID	Please provide the name of your fluid, including operating density and viscosity
PRESSURE & TEMPERATURE	Please provide the working temperature and pressure measure range
TYPE OF ELECTRONICS	Please provide the required output and connections
PIPE MATERIAL	Please provide the name of your pipe material

ALDPT

EXAMPLE: ALDPT-MV-B-2-22-M1-NN-N-N-S-N-N-N

ALDPT-MV-		**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	DESCRIPTION
Please input your measuring range														Measuring Range
2 MPa		2												Static Pressure Sensor
10 MPa		3												
40 MPa		4												
Diaphragm	Fluid													Materials
SST #316	Silicone oil	22												
SST #316	Fluorinated oil	23												
Hastelloy C	Silicone oil	32												
Hastelloy C	Fluorinated oil	33												
No Display		M1												Display
LCD Display		M7												
Backlight LCD Display		M8												
½ NPT Female Thread		NN												Install Connection
½ NPT Male Thread		NM												
M20 x 1.5 Male Thread		MM												
G½" Male Thread		GM												
Vacuum Coupling Radius Seal DIN 28403 KF16/ISO 2861 up to 2.5 bar		VC												
¼ NPT Male Thread		C12												
¾-20 UNF and ¼-18 NPT female thread, no relief valve		N												
¾-20 UNF and ¼-18 NPT female thread, Relief valves at end of flanges		B												Drain/Vent Valve
¾-20 UNF and ¼-18 NPT female thread, Relief valves at upper part of the flange		U												
¾-20 UNF and ¼-18 NPT female thread, Relief valves at lower part of the flange		D												
Perbunan (NBR)		N												
Viton (FKM)		F												Process Connector Gasket
Teflon (PTFE)		P												
Standard (without explosion proof)		S												
ATEX Isolated Explosion Ex ia		AI												Approvals
ATEX Explosion Ex id		AD												
0.1%										1				
0.075% _s										7				Accuracy
None											N			Mounting Bracket
Stainless steel # 304											1			
Carbon steel galvanized											2			
None											N			Options
Stainless steel oval-shaped flange with ½ NPT female thread											1			
Stainless steel D-shaped connector with M20x1.5 male thread											2			
2 ways SS #304 Valve Manifold - ½ NPT thread											2V			
3 ways SS #304 Valve Manifold - ½ NPT thread											3V			
5 ways SS #304 Valve Manifold - ½ NPT thread											5V			
2 ways SS #316 Valve Manifold - ½ NPT thread											2VA			
3 ways SS #316 Valve Manifold - ½ NPT thread											3VA			
5 ways SS #316 Valve Manifold - ½ NPT thread											5VA			

