



Datasheet

Monocrystalline Silicon Differential  
Pressure Transmitter

AI-MDPT556

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### Monocrystalline Silicon Differential Pressure Transmitter AI-MDPT556

Monocrystalline Silicon Differential pressure transmitter AI-MDPT556 is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. AI-MDPT556 outputs a 4~20 ma DC signal corresponding to the measured differential pressure. Its highly accurate and stable sensor can also measure the static pressure which can be shown on the integral indicator or remotely monitored via HART communications. Other key features include quick response, remote set-up using communications, self-diagnostics and optional status output for pressure high/low alarm.

#### Applications

- Industrial control
- Chemical field
- Electricity
- Metallurgy
- Petroleum industry
- Forging industry
- Water affairs
- Brewing

#### Features

- Full range coverage: 0 ~ 1KPa ~ 3MPa
- High precision mono c-Si technology: 0.075%
- Super static pressure detection performance
- The central sensing unit adopts high-precision silicon technology
- Patented double overload protection diaphragm design, one-way overpressure up to 40MPa
- The upper and lower limits of the range can be adjusted arbitrarily, with wider adaptability
- Optional multi-parameter output application
- EMC complies with the latest national standards



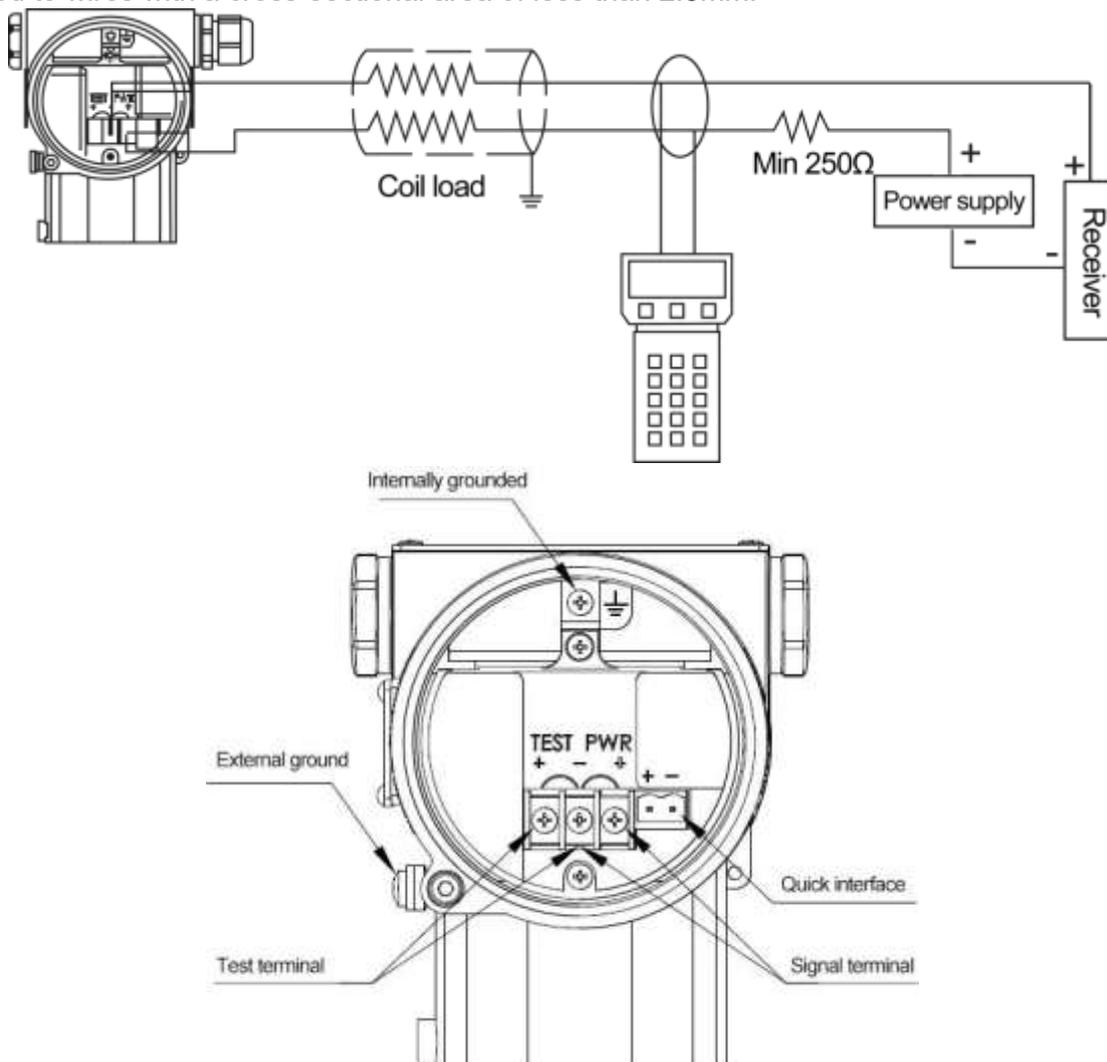
**AI-MDPT556**

Parameters	
Product	Differential Pressure transmitter
Model	AI-MDPT556
Measure range	-100kPa…0~0.1kPa…3MPa
Indication resolution	0.075%FS; ±0.1%FS
Stability	±0.1%FS/3 years
Power supply output	Two wire 4~20 mA output (12V~42V, Standard 24V) 4~20 mA+HART(15~42V, Standard 24V)
Ingress protection	IP67
Sensor Body	316L stainless steel
Pressure Limits	3.5kPa abs. to maximum working pressure
Ambient Temperature	-40 to 85°C/-20 to 65°C with LCD display or fluorine rubber sealing
Medium Temperature	-40~100°C
Storage temperature	-50~85°C/ -40 to 85°C with LCD display or fluorine rubber sealing
Cover Flange	316 stainless steel
Nuts and Bolts	304 stainless steel
Process Connector	316 stainless steel
Name plate and tag	304 stainless steel
Long term stability	±0.1%FS/3 years
Load Resistance	$R = (U - 12) / 21\text{mA}$ ; U: Supply voltage

Nominal range	Lower range limit	Upper range limit	Ambient temp error	Rated work pressure
0-100Pa~1kPa	-1kPa	1kPa	$\pm(0.45 \times TD + 0.25)$ %FS	0.2MPa (Standard)
				7MPa (Optional)
0-200Pa~6kPa	-6kPa	6kPa	$\pm(0.30 \times TD + 0.20)$ %FS	16MPa/25MPa/40MPa
0-400Pa~40kPa	-40kPa	40kPa	$\pm(0.20 \times TD + 0.10)$ %FS	
0-2.5kPa~250kPa	-250kPa	250kPa		
0-30kPa~3MPa	-500kPa	3MPa		
Note : TD=maximum range/adjustment range, if TD>10, the accuracy is: $\pm(0.0075 \times TD)\%$				

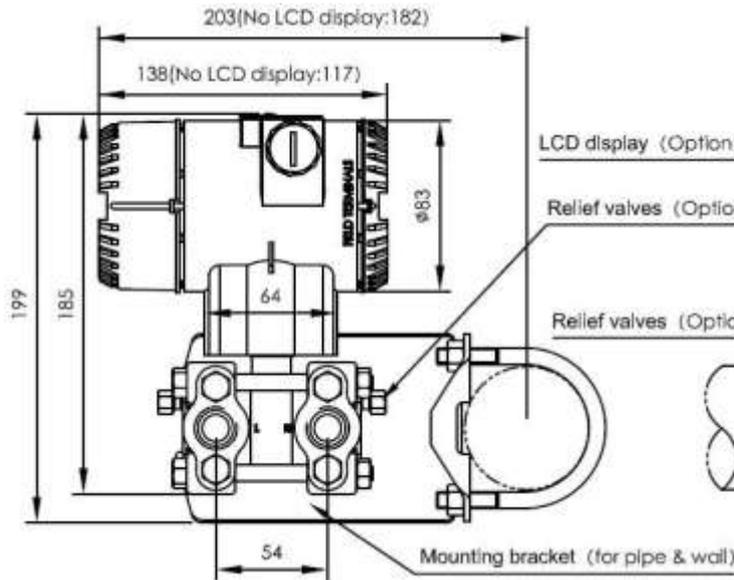
## Wiring

Since the transmitter does not have a power switch, the system must be equipped with an overcurrent protection or power cut-off device. Check that the operating voltage is the same as specified on the nameplate. The output signal of the power box shares a pair of phase wires. Electrical connections can be made with terminal blocks via NPT1/2 or M20x1.5 cable entries. The wire connection terminal can be connected to wires with a cross-sectional area of less than 2.5mm.

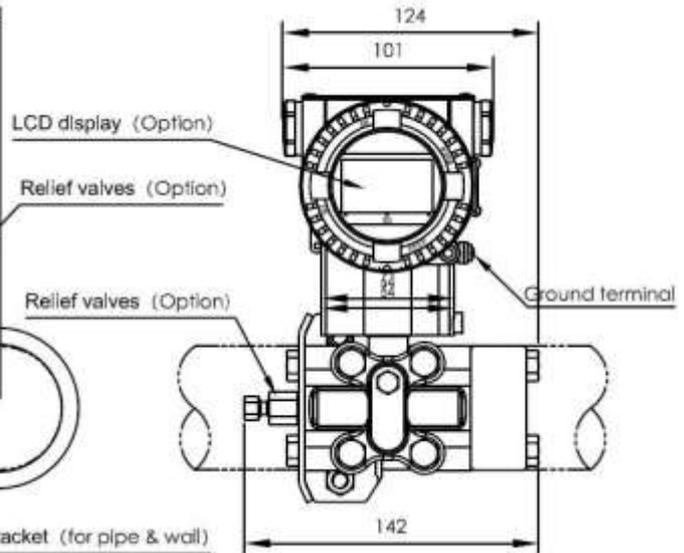


## Dimensions

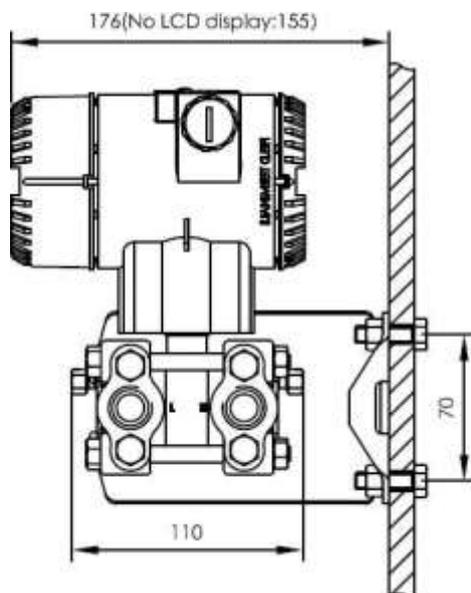
**1 Horizontal Impulse Piping Type  
(side face)**



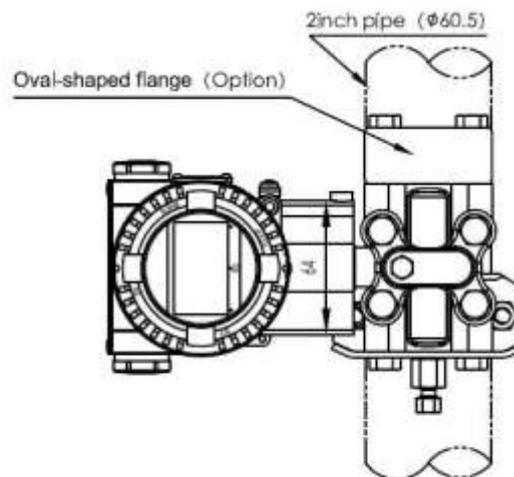
**2 Horizontal Impulse Piping Type  
(front side)**



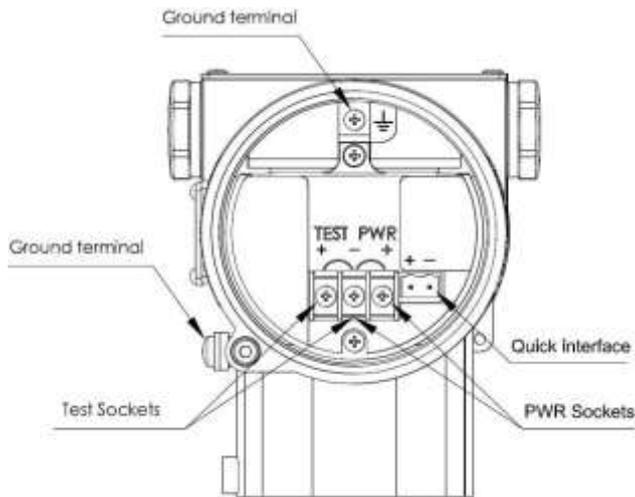
**3 Horizontal Impulse  
Wall mounting Type**



**4 Vertical Impulse  
Piping Type**

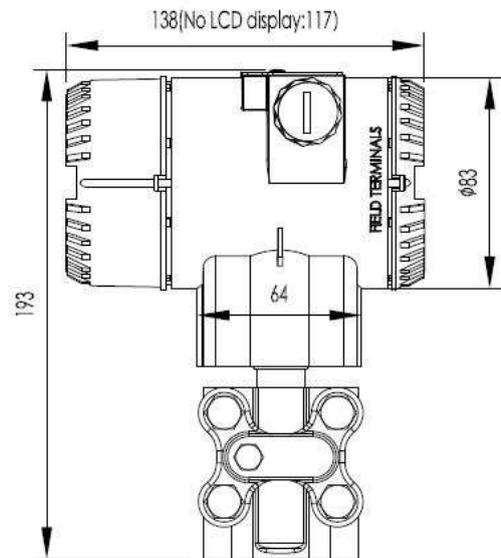


## 5 Terminal Configuration

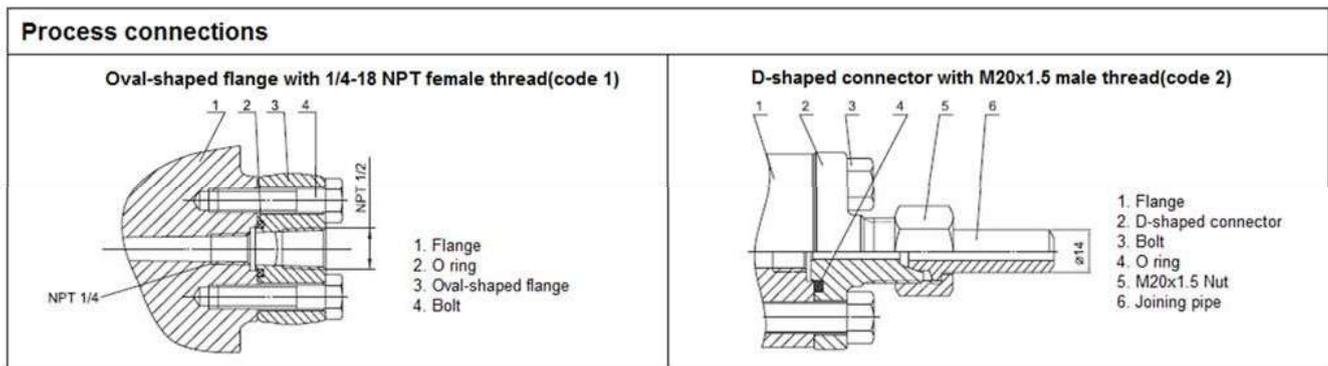


Note: Quick interface functionally equivalent to the signal terminal

## 6 Vertical mounting flange (Code V)



## 7 Process connections Description



## Ordering Code

AI-MDPT556-3B-D-0-A1-NH-B-W3-A-N3-E1														Description	
AI-MDPT56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Differential Pressure transmitter
Range	3W														100Pa
	3A														500Pa
	3B														1kPa
	3D														5kPa
	3H														40kPa
	3M														250kPa
	3P														1MPa
	3R														3MPa
	XX														Other
Accuracy		D													0.075 Class
		E													0.1 Class
		F													0.2 Class
		L	0												1.0 Class
Display Type			1												None
				A1											Available
Output and Power Supply				A7											Two-Wire 4-20mA
				A5											Two-Wire 4-20mA+HART
					NH										RS485,24VDC
						NF									NPT1/4 + 7/16-20UNF Back Pressure Relief Valve
Thread Type															NPT1/4 + 7/16-20UNF Side-Mounted Upper Relief Valve
															Other
							B								SS316L,SS316L
							M								Hastelloy C,SS316L
							P								Tantalum (Ta),SS316L
Diaphragm and Thread Type Material								G							SS316L
															Gold-Plated,SS316L
									J						SS316L coated with FEP,SS316L
									X						Other

Electrical Interface, Housing Material, and Ingress Protection	W3				M20× 1.5 Cable Gland, Aluminum Alloy, IP67
	XX				Other
Filling Liquid	A				Silicone Oil
	F				Fluorinated Oil
	X				Other
Sealing Ring Material		N3			Nitrile Rubber
		N4			Fluoroelastomer
		N6			Polytetrafluoroethylene (PTFE)
Explosion-Proof Option			00		None
			E1		NEPSI Ex ia II C T4 Ga
			E2		NEPSI Ex d II C T4-T6 Gb
			E3		NEPSI Ex tD A21 IP67 T80°C/T95°C /T130°C
<b>Additional Features (Optional)</b>					
Accessories				PM	M20× 1.5 Explosion-Proof Connector
				PF	Galvanized Carbon Steel Pipe-Mounted Flat Bracket + UNF7/16 Bolt
				PE	304 Stainless Steel Pipe-Mounted Flat Bracket + UNF7/16 Bolt
				PH	Galvanized Carbon Steel Pipe-Mounted Bent Bracket + UNF7/16 Bolt
				PG	304 Stainless Steel Pipe-Mounted Bent Bracket + UNF7/16 Bolt
				PK	304 Stainless Steel Three-Valve Assembly