



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Differential Pressure Transmitter

SUP-2051

Supmea[®]

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Datasheet**Differential Pressure Transmitter
SUP-2051**

Differential pressure transmitter SUP-2051 is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. SUP-2051 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

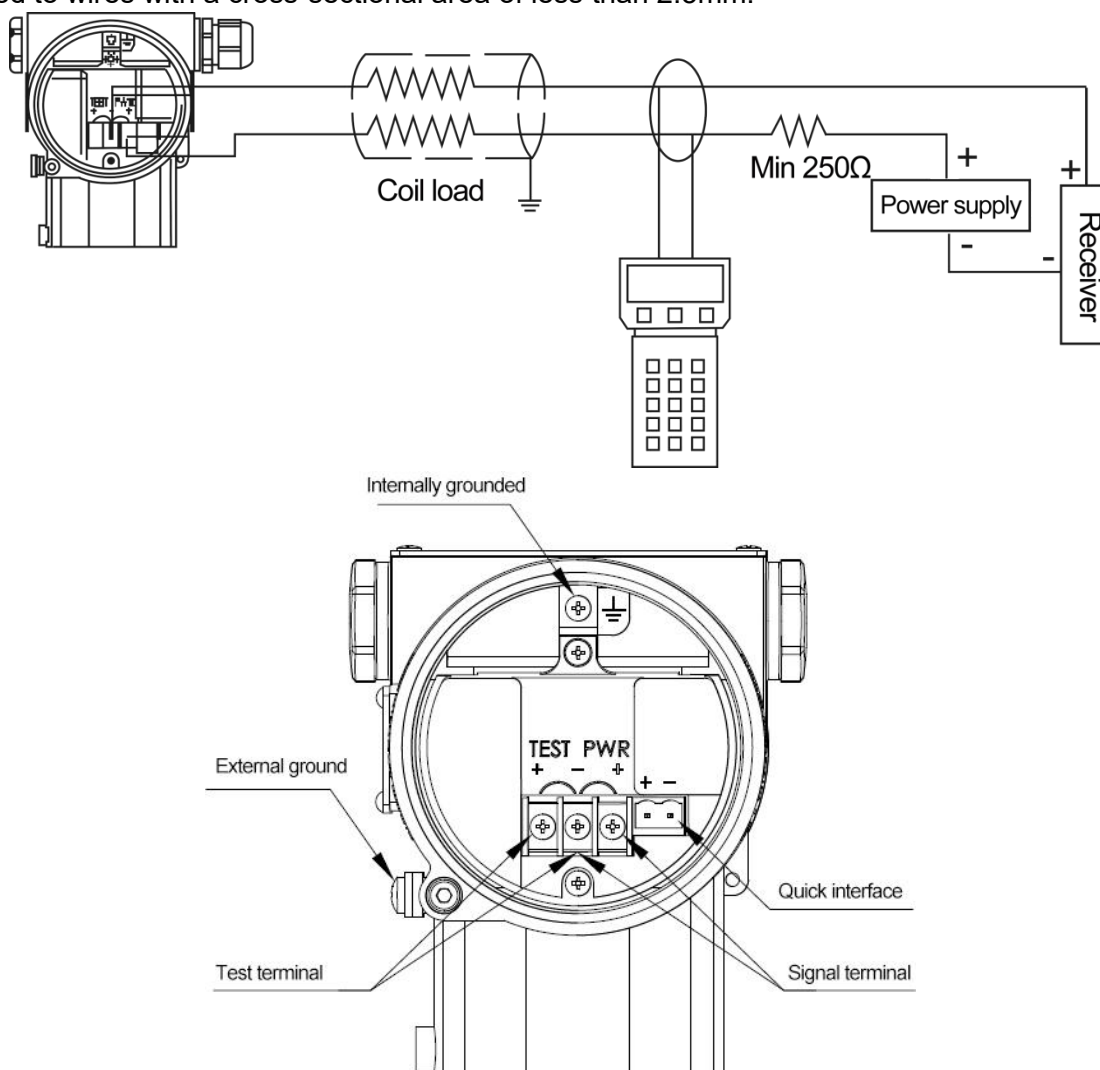
**SUP-2051**

Parameters	
Product	Differential Pressure transmitter
Model	SUP-2051
Measure range	-100kPa...0~0.1kPa...3MPa
Indication resolution	0.075%FS; $\pm 0.1\%$ FS
Stability	$\pm 0.1\%$ 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	$\pm 0.1\%$ 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: $\pm(0.0075\times TD)\%$				

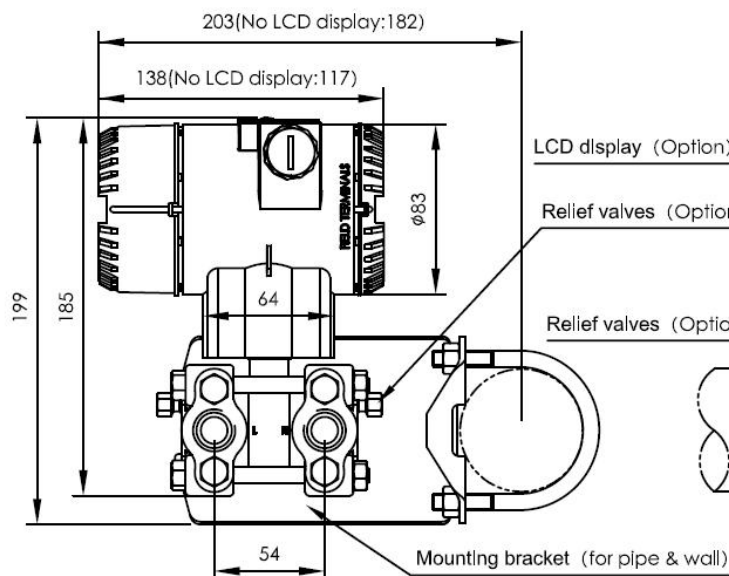
Wiring

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.

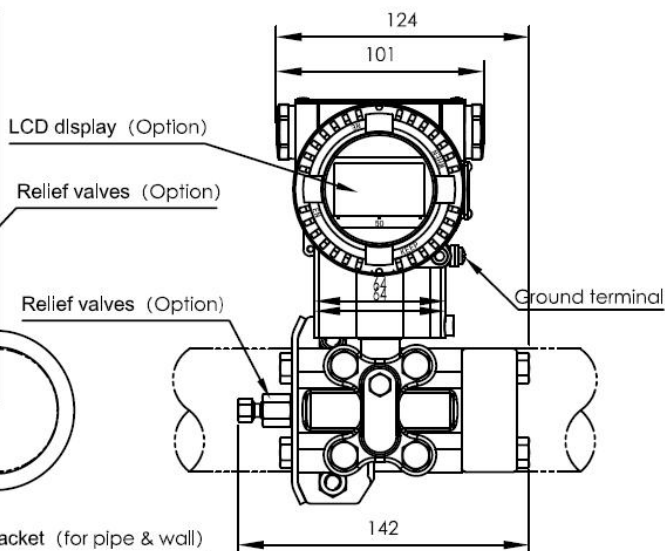


Dimension

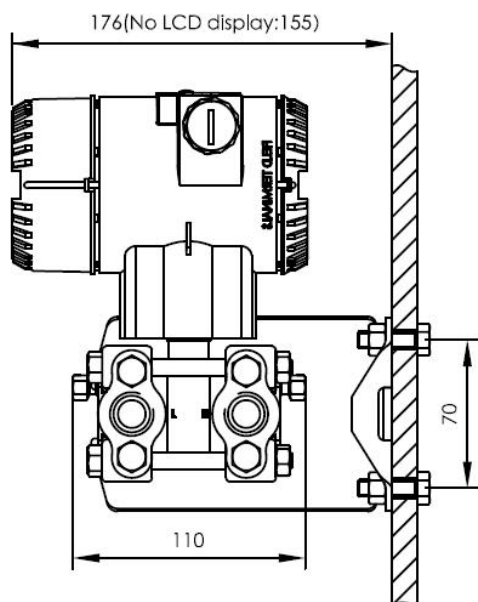
**1 Horizontal Impulse Piping Type
(side face)**



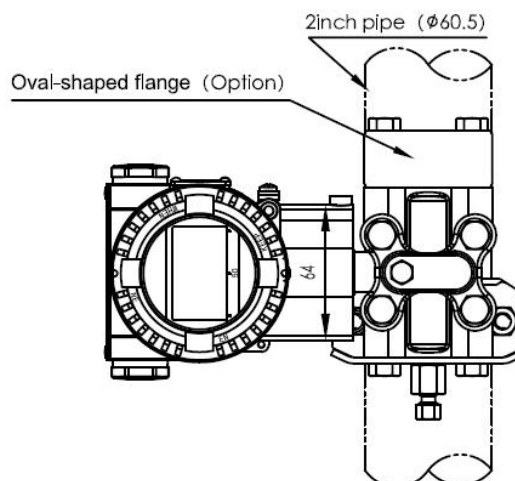
**2 Horizontal Impulse Piping Type
(front side)**



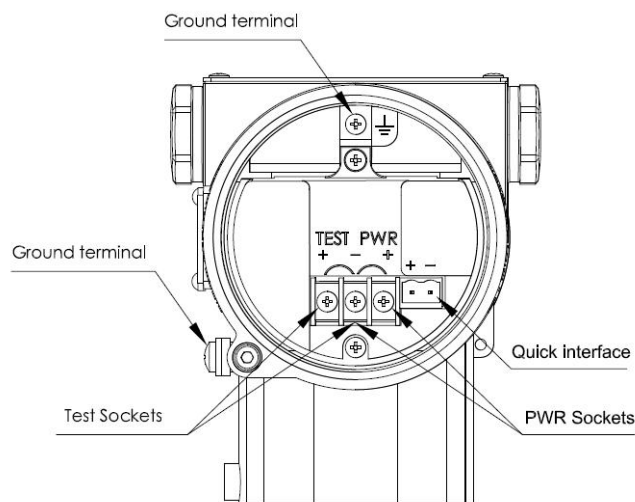
**3 Horizontal Impulse
Wall mounting Type**



**4 Vertical Impulse
Piping Type**

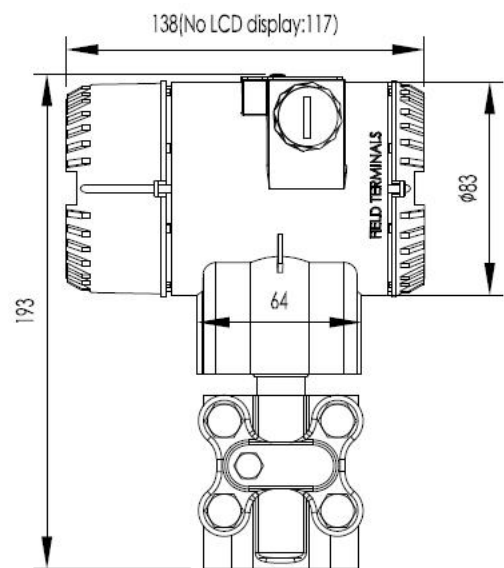


5 Terminal Configuration



Note: Quick interface functionally equivalent to the signal terminal

6 Vertical mounting flange (Code V)



7 Process connections Description

Process connections	
<p>Oval-shaped flange with 1/4-18 NPT female thread(code 1)</p> <p>1. Flange 2. O ring 3. Oval-shaped flange 4. Bolt</p> <p>NPT 1/2 NPT 1/4</p>	<p>D-shaped connector with M20x1.5 male thread(code 2)</p> <p>1. Flange 2. D-shaped connector 3. Bolt 4. O ring 5. M20x1.5 Nut 6. Joining pipe</p> <p>$\phi 14$</p>

Ordering code

SUP-2051-3B-D-0-A1-NH-B-W3-A-N3-E1														Description
SUP-2051	-	-	-	-	-	-	-	-	-	-	-	-	-	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													1.0 Class
Display Type		0												None
		1												Available
Output and Power Supply				A1										Two-Wire 4-20mA
				A7										Two-Wire 4-20mA+HART
				A5										RS485,24VDC
Thread Type					NH									NPT1/4 + 7/16-20UNF Back Pressure Relief Valve
					NF									NPT1/4 + 7/16-20UNF Side-Mounted Upper Relief Valve
					XX									Other
Diaphragm and Thread Type Material						B								SS316L,SS316L
						M								Hastelloy C,SS316L
						P								Tantalum (Ta),SS316L
						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
Additional Features (Optional)							
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