Datasheet

Differential Pressure Transmitter

SUP-2051

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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

SUP-2051

Features

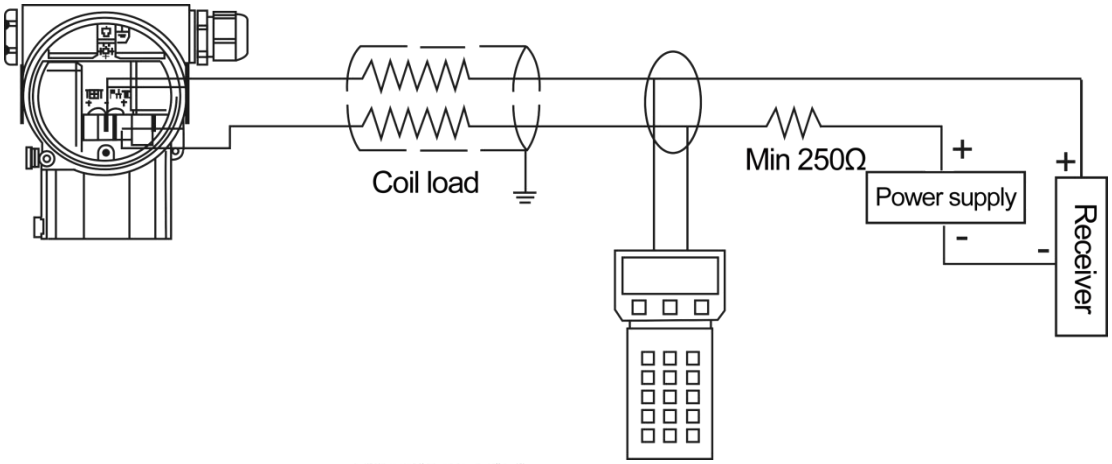
- Full range coverage: 0 ~ 1KPa ~ 3MPa
- High precision mono c-Si technology: 0.075%
- Super static pressure detection performance
- The central sensing unit adopts high-precision silicon technology
- Patented double overload protection diaphragm design, one-way overpressure up to 40MPa
- The upper and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

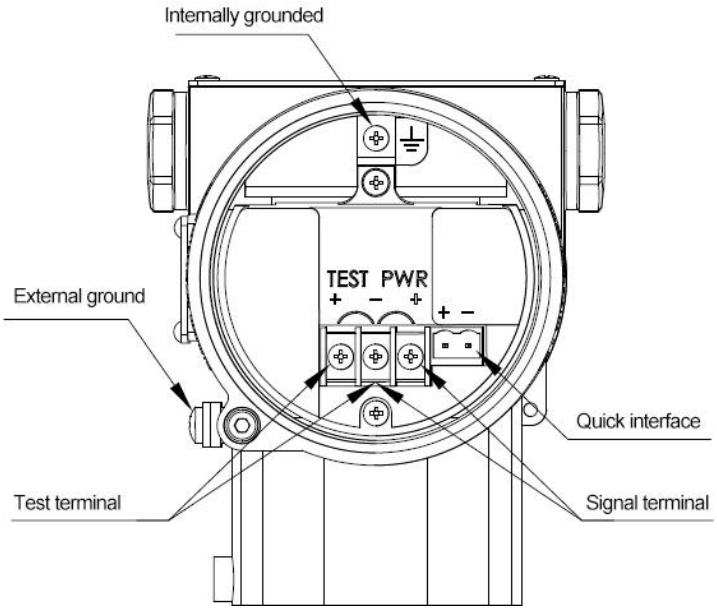
Parameters	
Product	Differential Pressure transmitter
Model	SUP-2051
Measure range	-100kPa…0～0.1kPa…3MPa
Indication resolution	0.075%FS;±0.1%FS;0.5%FS
Stability	±0.1%FS/3 years
Power supply output	Two wire 4~20 mA output (12V~42V, Standard 24V) 4~20 mA+HART(12~42V, Standard 24V)
Up time	＜15s
Ingress protection	IP67
Sensor Body	316L stainless steel
Pressure Limits	3.5kPa abs. to maximum working pressure
Ambient Temperature	-40 to 85℃ / -20 to 65℃ with LCD display or fluorine rubber sealing
Medium Temperature	-40~100℃
Storage temperature	-50~85℃/ -40 to 85℃ with LCD display or fluorine rubber sealing
Working Pressure Limits (Silicone oil)	Maximum working pressure:16MPa,25MPa,40MPa
Isolating Diaphragm	316L stainless steel / Hastelloy；C/Gold plated on 316L/FEP；plated on 316L/Tantalum
Cover Flange	316 stainless steel
Nuts and Bolts	304 stainless steel
Process Connector	316 stainless steel
Fill fluid	Silicone oil/Fluorinated oil
Process Connector Gasket	Perbunan (NBR）/Viton （FKM）/Teflon(PTFE)
Amplifier Housing	Aluminum with epoxy resin coat
Housing Gasket	Perbunan (NBR）
Name plate and tag	304 stainless steel
Product shell	Aluminum alloy, the appearance of epoxy coating
Load Resistance	R= (U-12)/21mA;U:Supply voltage

Nominal range	Lower range limit	Upper range limit	Ambient temp error	Rated work pressure
0-100Pa～1kPa	-1kPa	1kPa	±(0.45×TD+0.25) %FS	0.2MPa（Standard）
				7MPa（Optional）
0-200Pa～6kPa	-6kPa	6kPa	±(0.30×TD+0.20) %FS	16MPa/25MPa/40MPa
0-400Pa～40kPa	-40kPa	40kPa	±(0.20×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: ±(0.0075×TD)%				

Wiring

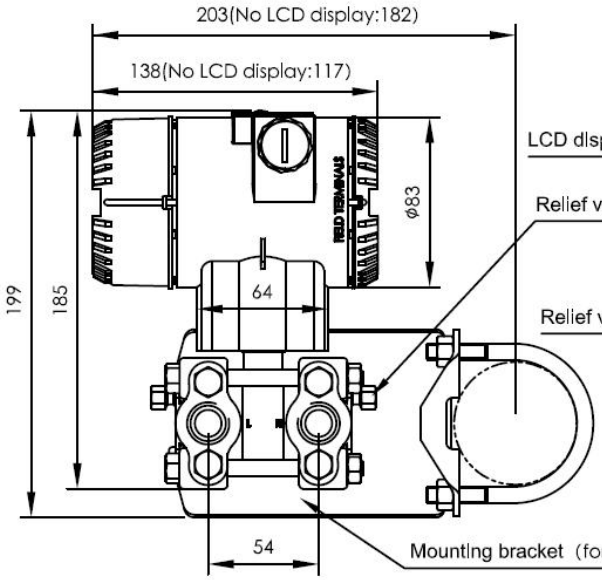
Since the transmitter does not have a power switch, the system must be equipped with an overcurrent protection or power cut-off device. Check that the operating voltage is the same as specified on the nameplate. The output signal of the power box shares a pair of phase wires. Electrical connections can 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.



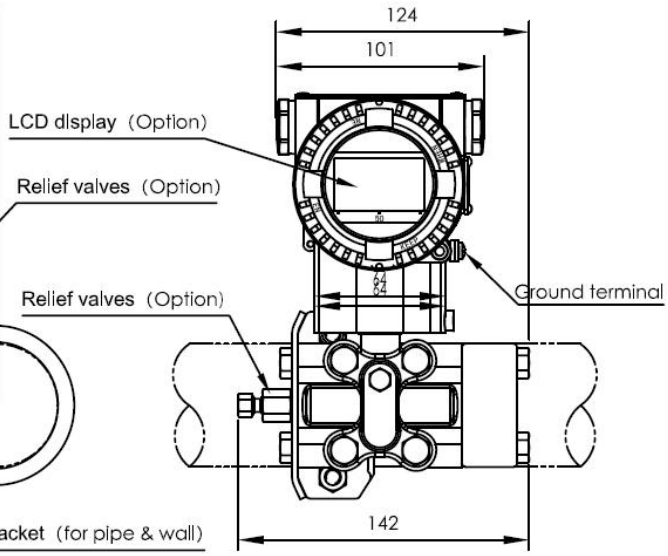


Dimension

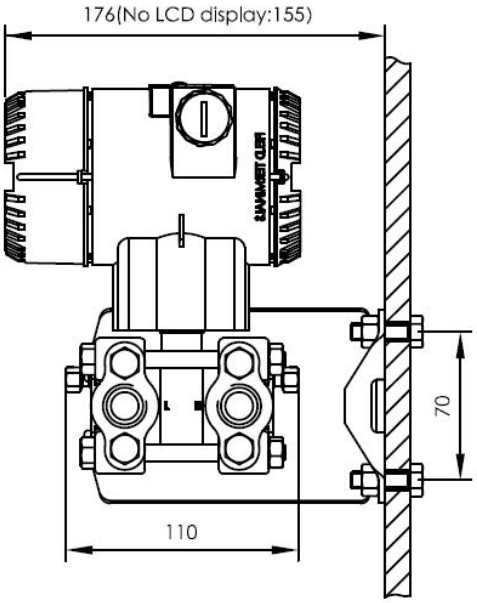
1 Horizontal Impulse Piping Type
(side face)



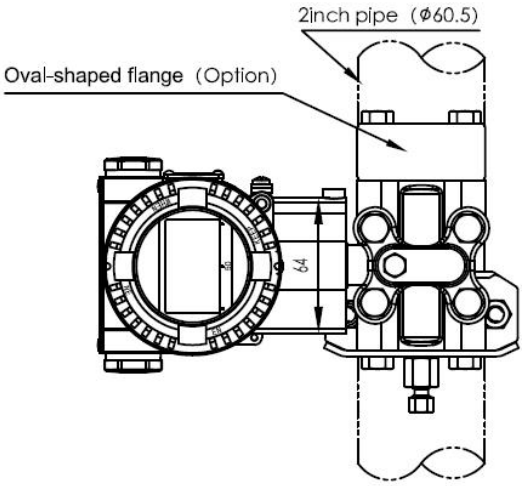
2 Horizontal Impulse Piping Type
(front side)



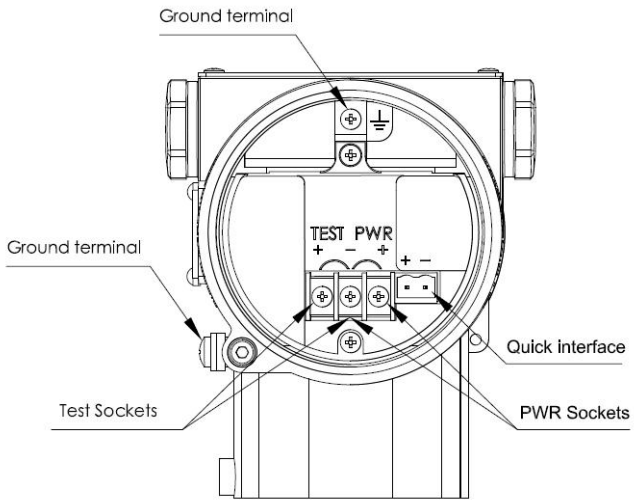
3 Horizontal Impulse
Wall mounting Type



4 Vertical Impulse
Piping Type

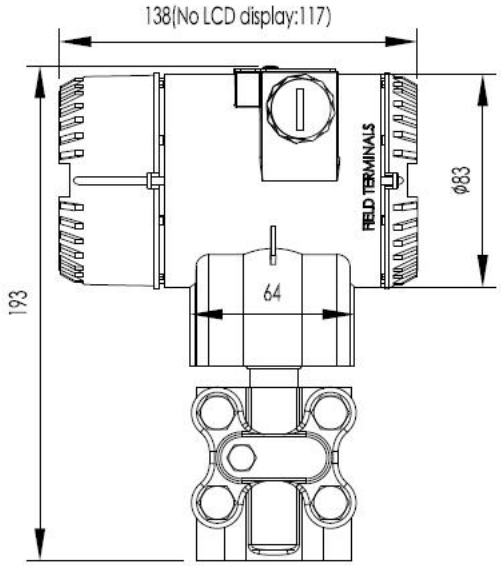


5 Terminal Configuration



Note：Quick interface functionally equivalent to the signal terminal

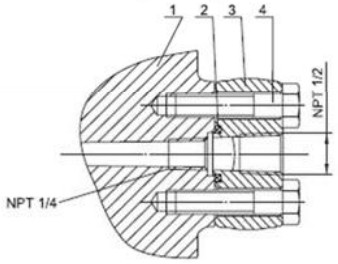
6 Vertical mounting flange (Code V)



7 Process connections Description

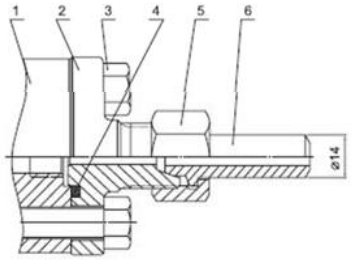
Process connections

Oval-shaped flange with 1/4-18 NPT female thread(code 1)



1. Flange
2. O ring
3. Oval-shaped flange
4. Bolt

D-shaped connector with M20x1.5 male thread(code 2)



1. Flange
2. D-shaped connector
3. Bolt
4. O ring
5. M20x1.5 Nut
6. Joining pipe

Ordering code

SUP-2051-D-RT1-J1-DT0-O1-D1-I8-EI6-V1-DM1-FT1-GQ1-IP1-HM3-TM1	Description
SUP-2051 - - - - - - - - - - - - - - -	Differential Pressure transmitter
Type D	Differential Pressure
Range RT1	0-100Pa…1kPa
Range RT2	0-200Pa…6kPa
Range RT3	0-400Pa…40kPa
Range RT4	0-2.5kPa…250kPa
Range RT5	0-30kPa…3MPa
Accuracy J1	0.075%FS
Accuracy J2	0.1%FS
Accuracy J5	0.50%FS
Display DT0	No display
Display DT3	LCD
Display DT4	OLED
Transmit output O1	4~20mA
Communication D1	HART
Installation I8	NPT1/4 internal thread
Installation I9	NPT1/2 internal thread
Installation I10	M20*1.5 Outer thread
Electrical Interface EI6	M20*1.5
Power supply V1	12~42V
Membrane material DM1	316 stainless steel
Membrane material DM2	HC
Membrane material DM3	TI (range>40kPa)
Membrane material DM4	316 stainless steel coating FEP film (range>40kPa
Membrane material DM5	316 stainless steel gold -plated film
Type of filling solution FT1	Silicon oil
Sealing circle material GQ1	Nitrile rubber seal
Sealing circle material GQ2	Fluorine rubber sealing ring
Sealing circle material GQ3	PTFE sealing ring
Ingress protection IP1	IP65

shell material	HM3		Aluminum shell
Thread material		TM1	304 stainless steel thread