



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Monocrystalline silicon
double flange-mounted
pressure transmitter
SUP-2051DP

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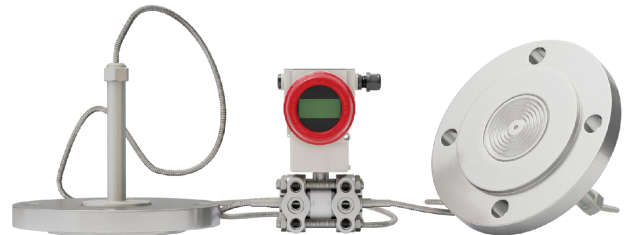
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Datasheet**Monocrystalline silicon double flange-mounted pressure transmitter
SUP-2051DP**

The circuit design of the transmitter adopts using a modular design with a microprocessor as the core and advanced digital isolation technology, the instrument. The meter has extremely high anti-interference and stability. At the same time, it monitors the transmitter through a built-in temperature sensor. Compensation improves measurement accuracy, reduces temperature drift, and has good long-term stability and reliability. It has the characteristics of high reliability and strong self-diagnosis ability. Structurally, it is very convenient for users to communicate via HART Calibrate, set up and configure the transmitter using the operator.

Applications

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

**Features**

- Advanced technology and packaging technology, with leading technology ultra-high performance
- One-way over voltage can reach up to 25MPa
- Microprocessor and advanced digital isolation technology design, making the instrument highly anti-interference and stable
- Powerful 24-bit ADC achieves high accuracy
- The latest one-key clear function, making it safer and faster.

**Monocrystalline silicon double
flange-mounted pressure
transmitter**

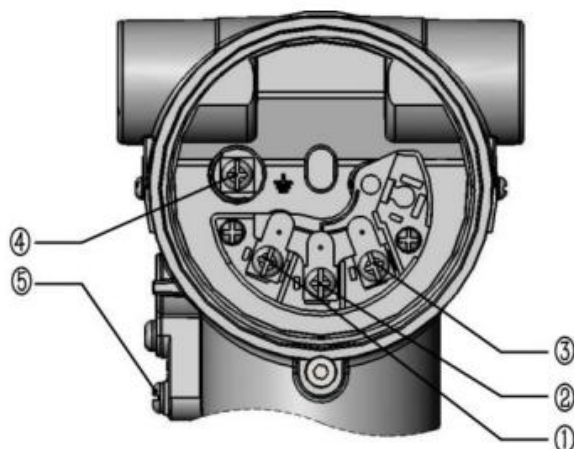
Principle

The Single-Crystal Silicon Double Flange Liquid Level Transmitter is a precision instrument that measures liquid level based on the principle of differential pressure. It employs a single-crystal silicon sensor to convert the static pressure difference caused by the liquid level into an electrical signal. This signal, typically a 4-20 mA current, can then be used to indicate or control the liquid level in a tank or vessel. The double flange design allows for direct installation on the tank, with each flange connected to a different pressure point, thereby enabling accurate measurement of the liquid level within.

Parameters	
Measuring medium	Gas, steam, liquid
Accuracy	$\pm 0.1\%$; $\pm 0.075\%$; (Only for some ranges of the whole machine) (Including linearity, hysteresis and repeatability from zero point)
Stability	$\pm 0.1\%/3$ years
Static pressure effect	$\pm 0.05\%/10\text{MPa}$
Power supply	(15~36) VDC
Power supply impact	$\pm 0.001\%$ /10V, negligible
Ambient temperature	(-40~85)°C
Measuring medium temperature	(-40~120)°C
Storage temperature	(-40~85)°C
Display	LCD
Display shows module temperature	(-20~70) °C

Wiring

1 Terminal Block

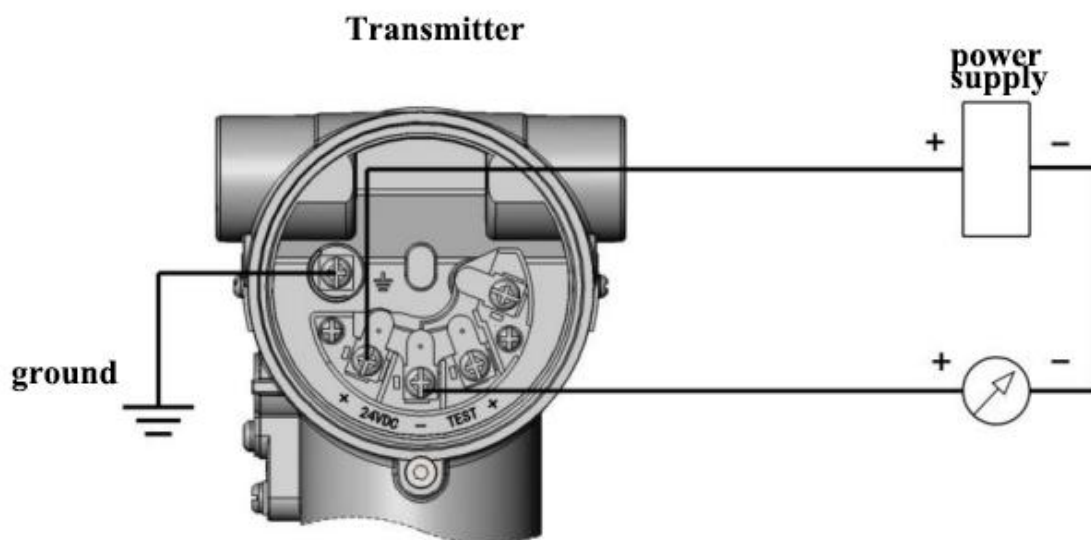


Transmitter terminals

- ① Transmitter power supply positive
- ② Transmitter power supply negative (4~20)mA test terminal negative
- ③ (4~20)mA test terminal positive
- ④ Internal ground screw
- ⑤ External ground screw

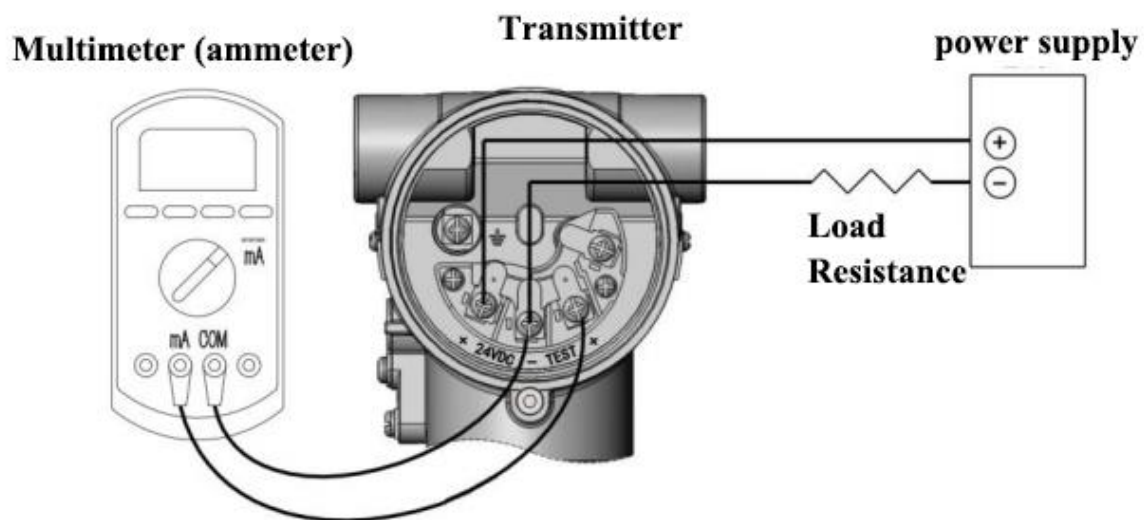
Note: Do not connect the power supply signal line to the test terminal, otherwise the test terminal will be destroyed diode inside. If the diode is unfortunately damaged, short-circuiting the test terminals will allow the transmitter to continue working. It's just that this machine cannot be connected to an external test meter. Signal wires do not need to be shielded, but twisted wires are more effective good. Do not route signal wires together with other power wires or close to strong electrical equipment.

2 Power cord connection



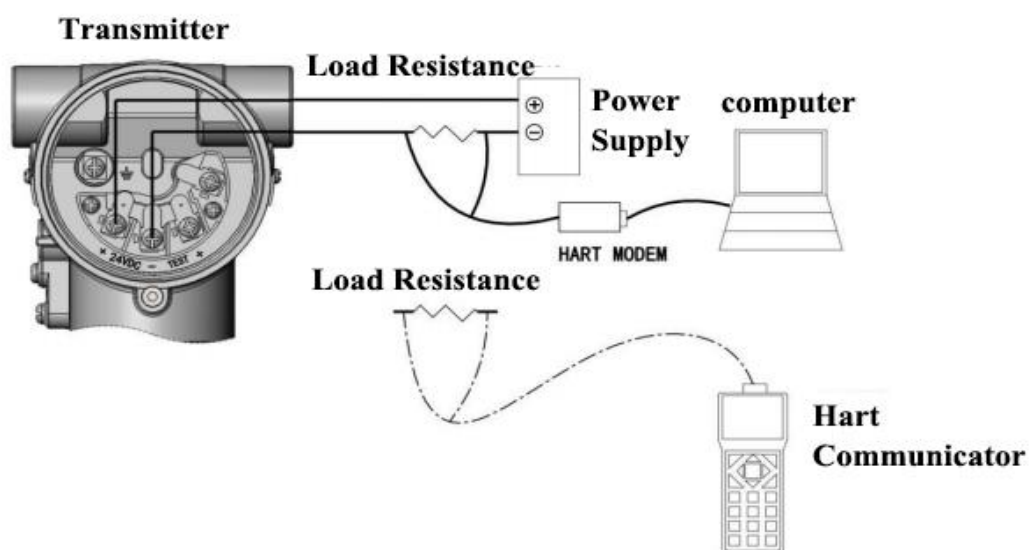
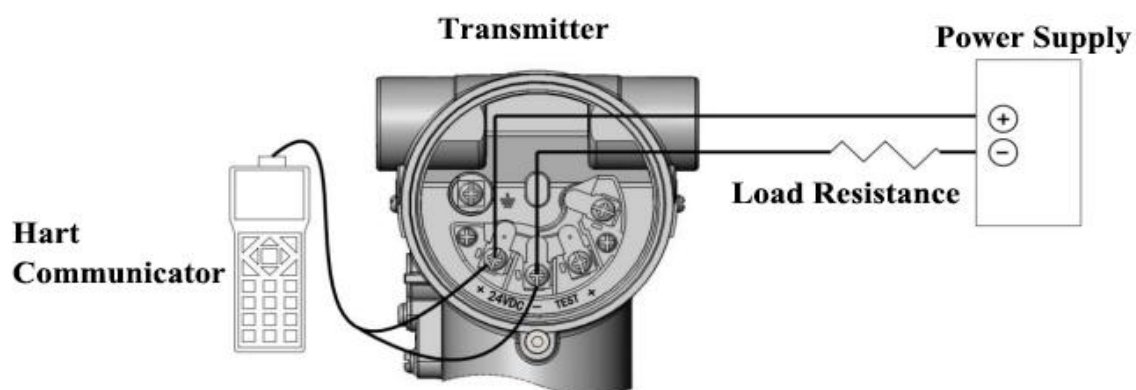
Transmitter power connection diagram

3 Current test instrument connection

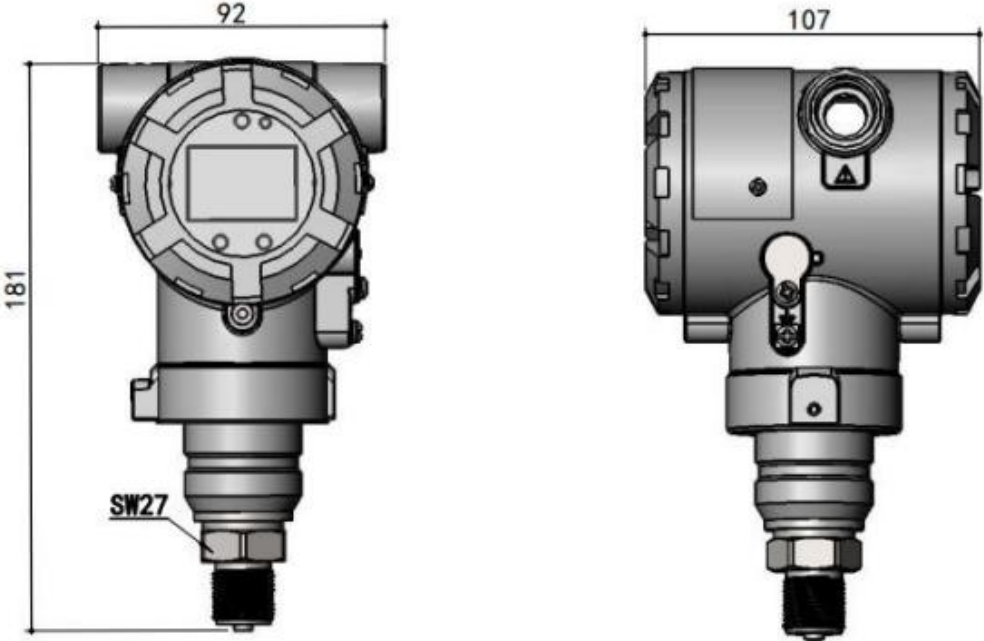


Current test instrument connection

4 Hart communication connection



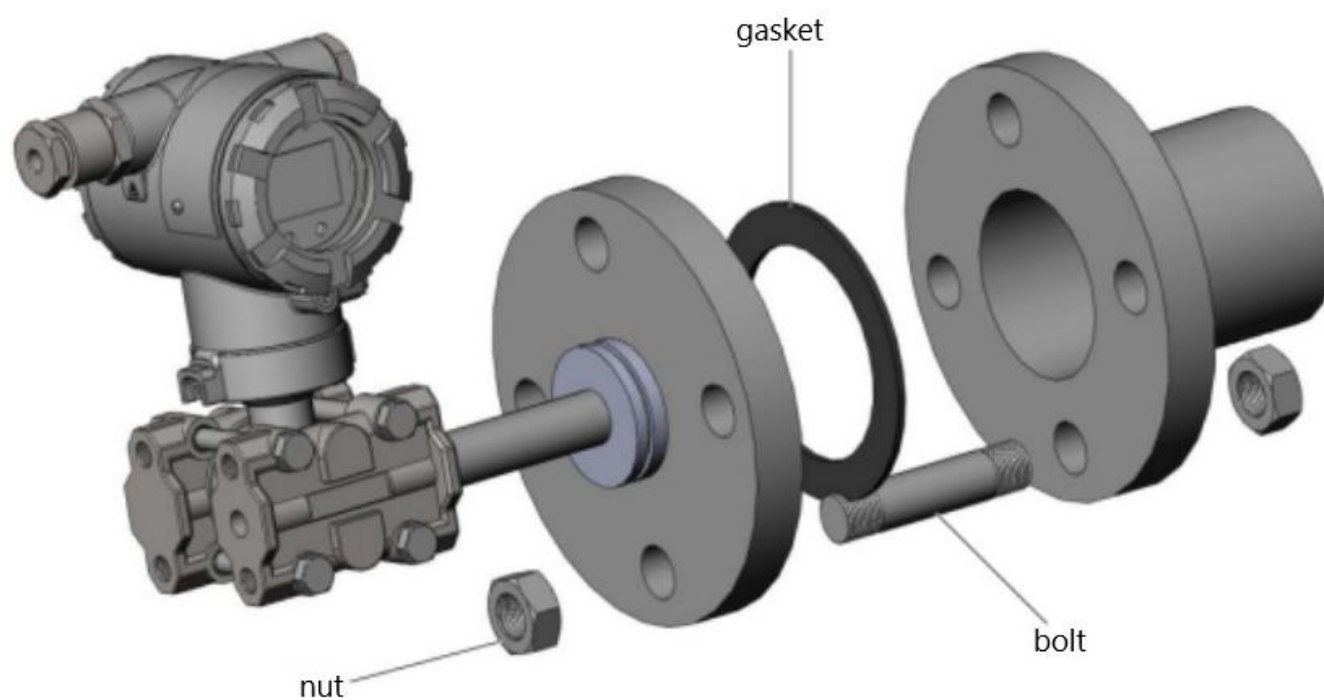
Dimension



Installation

■ Installation

Flange Level Transmitter Installation



Ordering code

SUP-2051DP -3E-F-H2-50-00-M1-0-A1-W1-M3-A-02-PF												Description
SUP-2051D P	-	-	-	-	-	-	-	-	-	-	-	-
Measurement Range	3E											10kPa
	3G											30kPa
	3J											50kPa
	3L											100kPa
	3											
	M											250kPa
	3P											1MPa
	3R											3MPa
	XX											Other
Accuracy		F										0.2 Class
		E										0.1 Class
		D										0.075 Class
Flange Specification			H									HG/T20592 PN10/40
			2									
			H									HG/T20592 PN63
			4									
			K1									ANSI Class 150
			K2									ANSI Class 300
Flange Size			X									Other
			X									
				50								DN50(2")
				80								DN80(3")
				1								
				C								DN100(4")
Diaphragm projection length				X								Other
				X								
					00							0mm
					50							50mm
					1							
					H							100mm
Flange Material and processing					2							150mm
					H							
					X							Other
					X							
						M						304SS
					1							
Flange Material and processing						M						316SS
						2						
						F						304SS, Negative Pressure Processing
						M						

Display Type	FN				316SS, Negative Pressure Processing
	0				None Available
Output and Power supply	1				
		A			Two-Wire 4-20mA
		1			Two-Wire 4-20mA+HART
		A			RS485, 24VDC
		7			M20×1.5 Cable Gland, Aluminum Alloy, IP67
Electrical Interface, Housing Material, and Ingress Protection		A			Other
		5			316LSS
			W		Hastelloy C
Diaphragm Material			1		Tantalum
			XX		Other
				M3	Silicone Oil
				M	High-Temperature Silicone Oil
				G	Fluorinated Oil
Filling Liquid				T2	Vegetable Oil
				XX	2m
				A	1m
				B	3m
Capillary Length				F	5m
				Q	10m
					X
					Other
					Galvanized Carbon Steel
					P
					F
Accessories					Pipe-Mounted Flat Bracket + UNF7/16 Bolt
					304SS Pipe Mounted Flat
				P	Bracket + UNF7/16 Bolt
				E	