

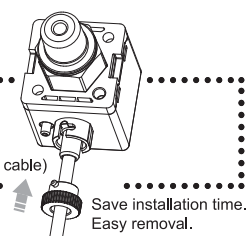
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SE51

DIGITAL PRESSURE SWITCH

Applicable fluid RoHs / IP 65
 Corrosive fluid or gas



2-color Display

User programmable color mode, for different setting conditions.



	SoG	SoR	Grn	rEd
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

Applicable fluid

Sensor parts & Fitting parts are SUS 316L, applicable for corrosive fluid or gas equipment.



Fast Parameter Copy

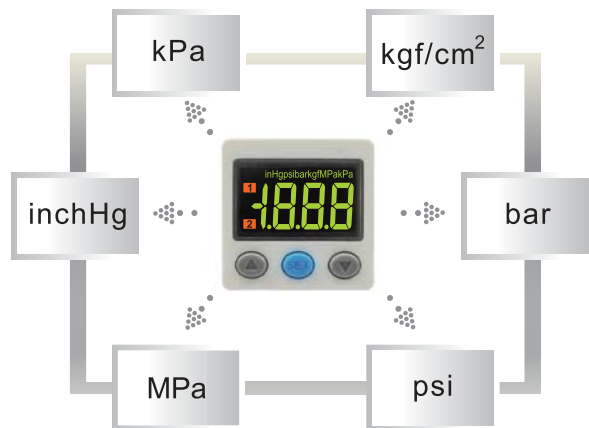
The setting values can be copied from master to slave, reducing setting time and avoiding input error.



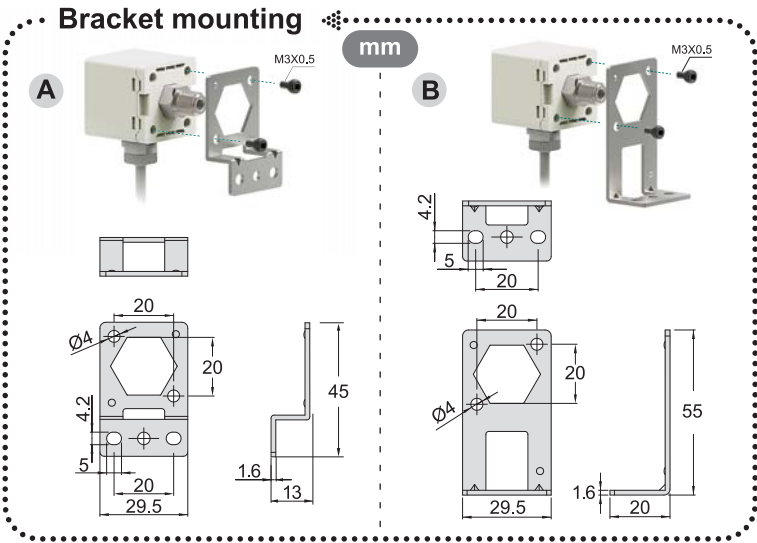
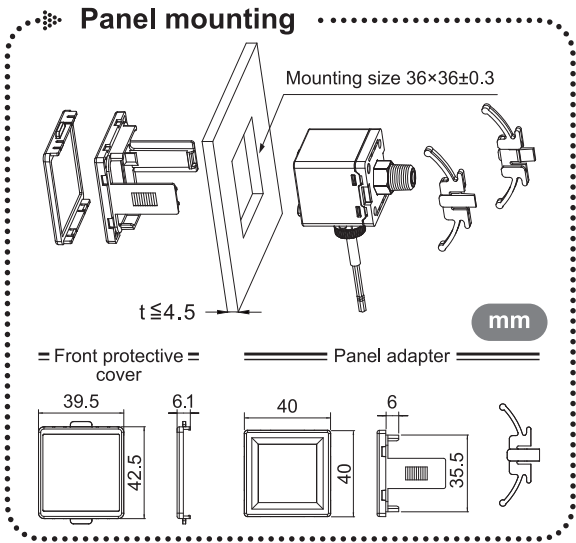
Master COPY Slave

Various Unit Conversion Functions

Offers 6 globally adopted pressure units.



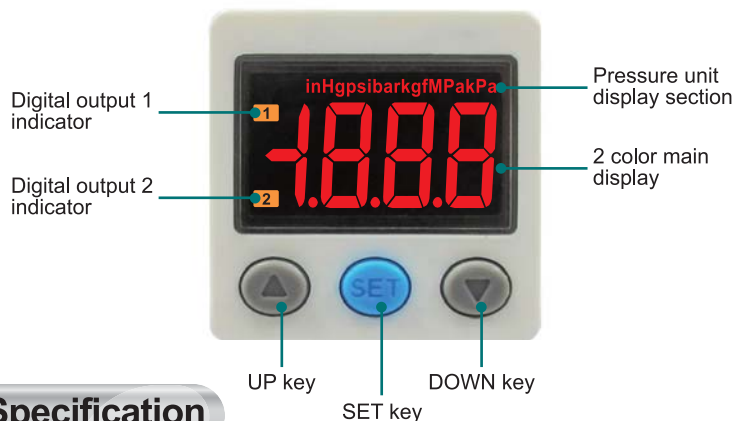
Mounting variations



Series

Series	SE51P(Positive)	SE51H(High)	SE51V(Vacuum)	SE51C(Compound)
Measurable range	0.000 ~ 1.000MPa	0.000 ~ 2.00MPa	0.0 ~ -101.3kPa	-100.0 ~ 100.0kPa
Set pressure range	1.000MPa 0 -0.050MPa	2.00MPa 0 -0.050MPa	10.0kPa 0 -101.3kpa	-100.0~100.0kPa 0 -101.0kpa
Withstand pressure	3MPa	3MPa	300kPa	300kPa
Min. unit setting	0.001MPa	0.001(~1.999) 0.01(2.00~)MPa	0.1kPa	0.1kPa
output	2 NPN open collector Max. load current : 125mA Max. supply voltage : 30V DC Residual voltage : ≤1.5V		2 PNP open collector Max. load current : 125mA Max. supply voltage : 24V DC Residual voltage : ≤1.5V	
Piping	O2: Outer port PT1/4, inner port M5 N2: Outer port NPT1/4, #10-32UNF G2: Outer port G1/4(BSPP), inner port M5			

Features



1. Corrosive fluid or gas available
2. Sensor parts & Fitting parts :
Stainless steel 316L
3. 2-color digital LCD display
4. Various unit conversion functions
5. Parameter copy function
6. IP65 enclosure
7. Analog output function
8. Repeatability: $\pm 0.2\%$ F.S. ± 1 digit or less

Specification

Series	SE51P (Positive)	SE51H (High)	SE51V (Vacuum)	SE51C (Compound)
Rated pressure range	0.000 ~ 1.000MPa	0.000 ~ 2.00MPa	0.0 ~ 101.3kPa	-100.0 ~ 100.0kPa
Operating / setting pressure range	-0.050 ~ 1.000MPa	-0.050 ~ 2.00MPa	10.0 ~ -101.3kPa	-101.0 ~ 101.0kPa
Withstand pressure	3MPa		300kPa	
Fluid	Fluids do not corrode stainless steel 316L			
Set pressure resolution	kPa	—	—	0.1
	MPa	0.001	0.001(~1.999) / 0.01(2.00~)	—
	kgf/cm ²	0.01	0.01(~19.99) / 0.1(20.0~)	0.001
	bar	0.01	0.01(~19.99) / 0.1(20.0~)	0.001
	psi	0.1	0.1(~199.9) / 1(200~)	0.01
inHg	—	—	0.1	—
Power supply voltage	12 to 24VDC $\pm 10\%$, ripple(P-P)10% or less			
Current consumption	$\leq 40\text{mA}$ (With no load)			
Switch output	NPN: open collector 2 outputs		PNP: open collector 2 outputs	
Max. load current	125mA			
Max. applied voltage	30V DC		24V DC	
Residual voltage	$\leq 1.5\text{V}$			
Response time	$\leq 2.5\text{ms}$ (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms selectable)			
Repeatability	$\pm 0.2\%$ F.S ± 1 digit or less			
Output short circuit protection	Yes			
7 segment LED display	3½ digit, 7 segment (red/green)			
Indicator accuracy	$\pm 2\%$ F.S ± 1 digit (ambient temperature: $25 \pm 3^\circ\text{C}$)			
Analog output	Voltage output (Note 1)	Output voltage	1~5V($\pm 2.5\%$)	
		Load impedance	about 1k Ω	
	Current output (Note 2)	Output current	4~20mA($\pm 2.5\%$)	
		Load impedance	Max.Load impedance: 250 Ω at power supply of 12V 600 Ω at power supply of 24V Min.Load impedance: 50 Ω	
Environment	Enclosure	IP65		
	Ambient temperature	0°C ~ +50°C		
	Storage temperature	-10 ~ +60°C (no condensation or frozen)		
	Ambient humidity	35% ~ 85% RH (non-condensing)		
	Withstand voltage	1000V AC in 1minute (between case and lead wire)		
	Insulation resistance	50M Ω or more (at 500 VDC, between case and lead wire)		
	Shock immunity	Total amplitude 1.5mm or 10G, 10Hz~55Hz~10Hz scan for 1 minute, two hours each direction of X,Y and Z		
	Vibration immunity	100m/s ² (10G), 3 times each in direction of X,Y and Z		
Temperature characteristic	$\pm 3\%$ F. S. of detected pressure (25°C) at temperature range of 0~50°C			
Port size(Note 3)	02:R1/4", M5/ N2:NPT1/4", #10-32UNF/ G2: G1/4"(BSPP), M5			
Lead wire	Oil-resistance cable (0.15mm ²)			
Weight	About 110g (with 2-meter lead wire)			

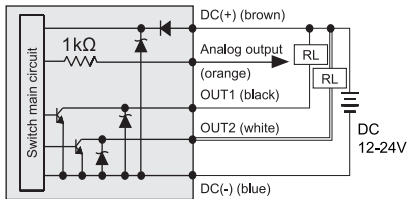
Note 1) When the analog voltage output is selected, the analog current output cannot be selected.
 Note 2) When the analog current output is selected, the analog voltage output cannot be selected.
 Note 3) G port O-Ring material is NBR. if any special request, please contact CHANTO.

How to order

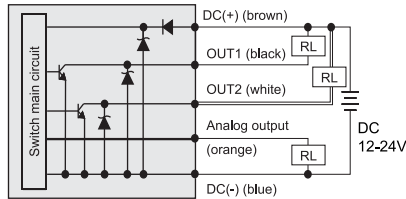
SE51	P	- 02		- 01	A
Model	Pressure range	Port size	Piping direction	Output specifications	Spare parts (optional)
P	Positive (-0.050~1.000MPa)	02 R1/4" N2 NPT1/4" G2 G1/4"	Nil Rear ported L Bottom ported	01 2NPN + Analog(voltage) output(1-5V) 02 2NPN + Analog(current) output(4-20mA) 03 2NPN output + Copy function 04 2NPN + Analog(voltage) output(1-5V) 05 2NPN + Analog(current) output(4-20mA) 06 2NPN output + Copy function	A Mounting bracket C Panel adapter B Mounting bracket D Panel adapter + front protective cover

Internal Circuit

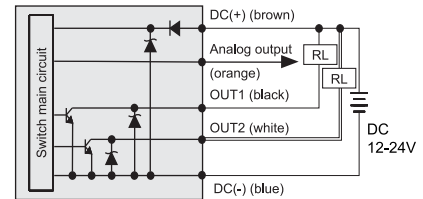
SE51□-□□-01
2NPN + Analog(voltage) output(1-5V)



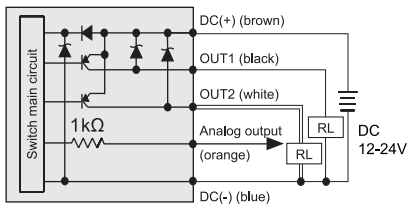
SE51□-□□-02
2NPN + Analog(current) output(4-20mA)



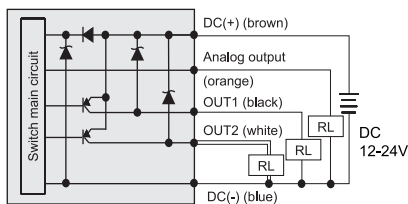
SE51□-□□-03
2NPN output + Copy function



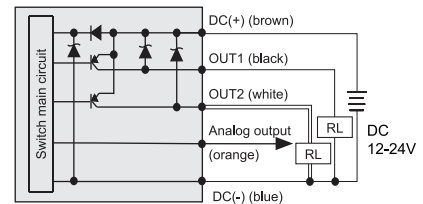
SE51□-□□-04
2NPN + Analog(voltage) output(1-5V)



SE51□-□□-05
2NPN + Analog(current) output(4-20mA)



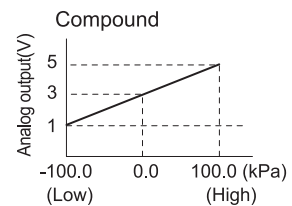
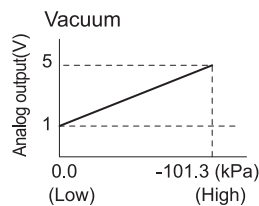
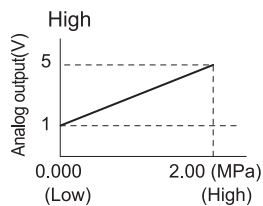
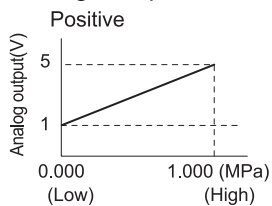
SE51□-□□-06
2NPN output + Copy function



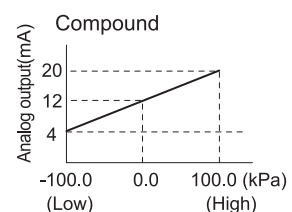
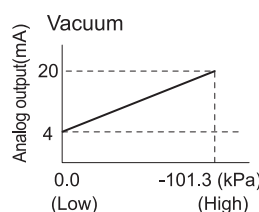
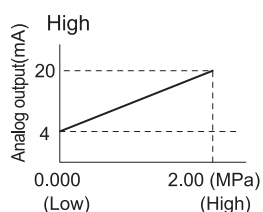
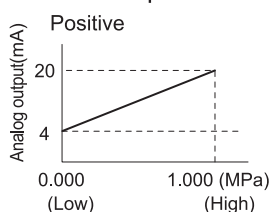
Analog output

● Analog output range 1-5V or 4-20 mA, proportional to the pressure range.

● Voltage output

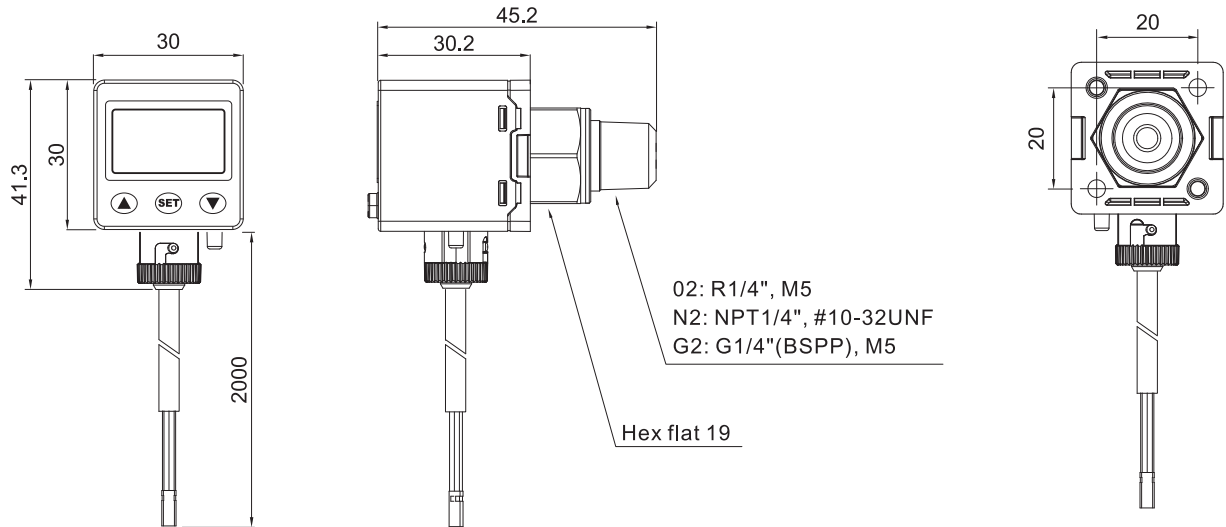


● Current output

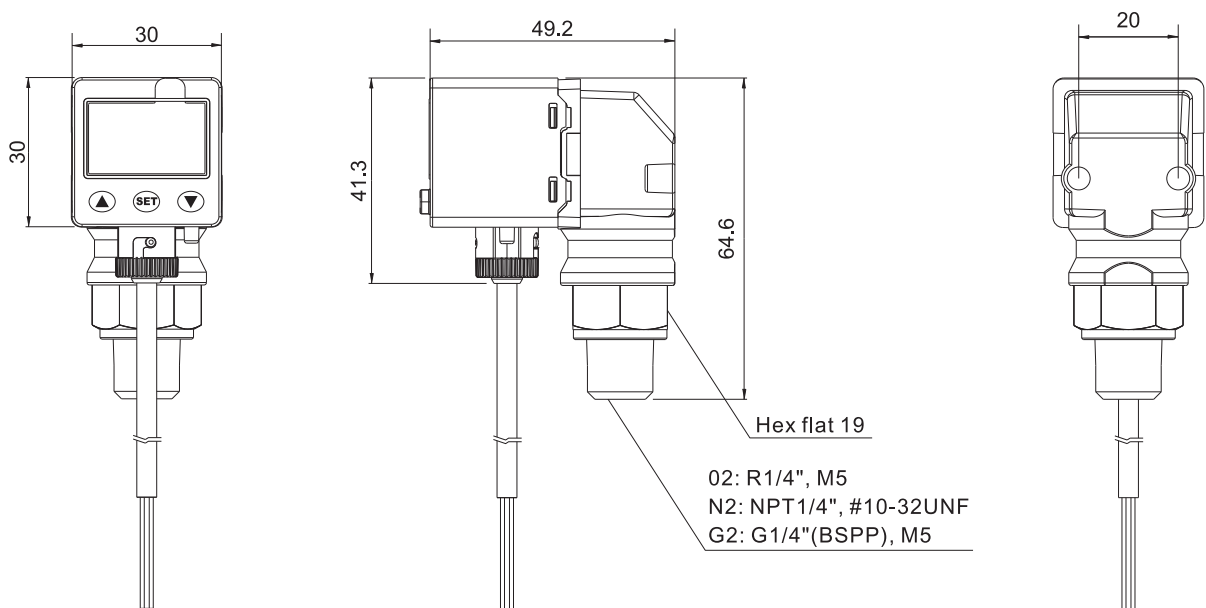


External dimensions

- SE51□-□-□
(Rear ported)



- SE51□-□L-□
(Bottom ported)



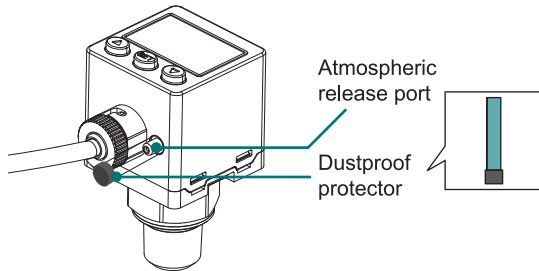
Safety instructions and precautions

Be sure to read the safety instructions before use.

Accessory

⚠ Warning

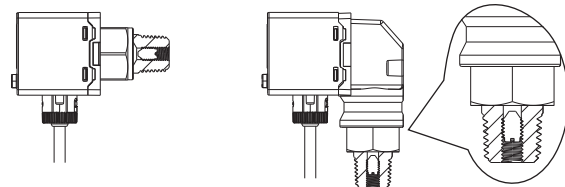
- This device must be installed to maintain IP 65 (Dust and splash proof) enclosure rating.



Removable snubber installed

⚠ Caution

- Pressure port equipped with snubber can avoid damage caused by sudden pressure surge of water or oil, improve product durability.

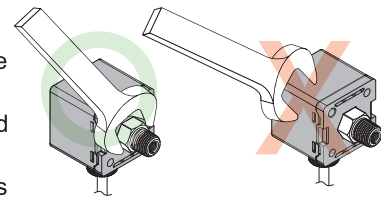


- ▲ Rear ported
- ▲ Bottom ported
- ※ When snubber is clogged with contaminants, please use a flat head screwdriver to remove the snubber, clean and reinstall.

Installation

⚠ Warning

1. When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.
2. Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
3. Apply pressure and power after installation and make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.



Safety instructions

⚠ Caution

1. Do not use corrosive or flammable gas or liquid with this product.
2. Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
3. Do not drop, hit or allow excessive shock. Even if switch body appears undamaged, internal components may be broken and can cause malfunction.
4. Turn power off before connecting wiring. Wrong wiring or short circuit will damage and / or cause malfunction.
5. Do not use in environment containing steam or oil vapor.
6. This product is not explosion-proof rated. Do not use in atmosphere containing flammable or explosive gases.
7. Wiring for pressure sensor should avoid power source line and high voltage line. If use in the same circuit, noise may cause malfunction.
8. For Use on a Flat Surface of a Type 1 Enclosure.