

SM-300 series

Digital Pressure Gauge Controller

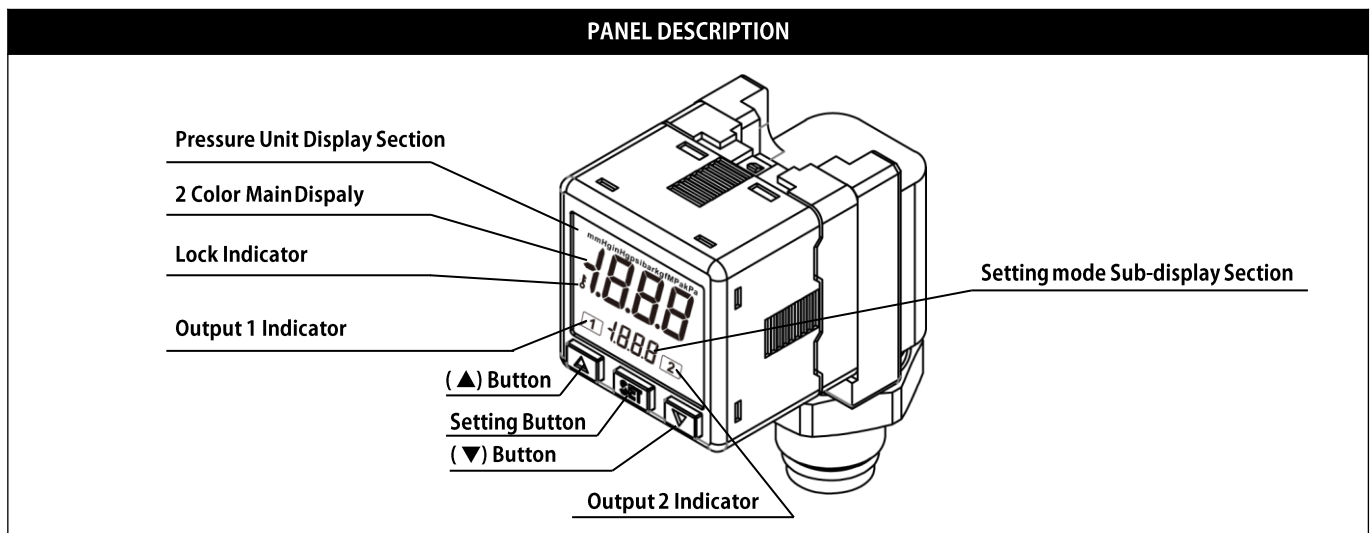
- Power supply voltage 12~24VDC
- Indicator accuracy $\pm 1.0\%$ F.S
- Ambient Temp range 0 ~ 70 °C
- Pressure connect port : 9/16-18UNF VCR Fitting
- Sensor input 4~20mA or 1~5V
- Application : non-ionic, non-corrosive gas
- Mounting bracket and cable



□ SPECIFICATIONS

MODEL		SM300 series											
SENSOR TYPE		S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12
Rated pressure range		0~101.3 kPa	0~100 kPa	0~2 kPa	0~5 kPa	-100~100 kPa	-101~500 kPa	-0.100~1 MPa	0~2 MPa	0~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range		10~101.3 kPa	-10~100 kPa	-0.2~2 kPa	-0.5~5 kPa	-100~100 kPa	-101~500 kPa	-0.100~1 MPa	-0.100~2 MPa	-0.100~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range (Auto-shift input)		101.3~101.3 kPa	-100~100 kPa	-2~2 kPa	-5~5 kPa	-100~100 kPa	-500~500 kPa	-1~1 MPa	-2~2 MPa	-2.5~2.5 MPa	-10~10 MPa	-25~25 MPa	-40~40 MPa
Set pressure resolution	kPa	0.1	0.1	0.01	0.01	0.1	1	-	-	-	-	-	-
	Mpa	-	-	-	-	-	-	0.001	0.01	0.01	0.01	0.1	0.1
	kgf/cm ²	0.001	0.001	-	-	0.001	0.01	0.01	0.1	0.1	0.1	1	1
	Bar	0.001	0.001	-	-	0.001	0.01	0.01	0.1	0.1	0.1	1	1
	Psi	0.01	0.01	-	-	0.01	0.1	0.1	1	1	1	1 ⁴	1 ⁴
	inHg	0.1	-	-	-	0.1	-	-	-	-	-	-	-
	mmHg	1	-	0.1	0.1	1	-	-	-	-	-	-	-
Power supply voltage		12 to 24V DC $\pm 10\%$, Ripple (P-P) 10% or less											
Current consumption		≤ 40 mA (With no load)											
Sensor input		1~5V or 4~20mA											

□ PANEL DESCRIPTION



□ SPECIFICATIONS DETAILED

MODEL		SM300	
Switch output	NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: $\leq 1.5V$	PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: $\leq 1.5V$	
Repeatability (Switch output)	$\pm 0.1\%$ F.S. ± 1 digit		
Hysteresis	<ul style="list-style-type: none"> • One point set mode • Window comparator mode • Hysteresis mode 		
Response time	$\leq 2.5ms$ (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)		
Output short circuit protection	Yes		
7 segment LCD display	Two color(Red/Green) main & unit display, Orange sub-display (Sampling rate: 5 times/1sec.)		
Indicator accuracy	$\pm 1\%$ F.S. ± 1 digit (ambient temperature: $25 \pm 3^\circ C$)		
Switch ON Indicator	Orange (1 & 2 Indicator) OUT1 OUT2		
Analog output (Voltage Output) *2	<ul style="list-style-type: none"> • Output Voltage: 1 to 5V $\pm 2\%$ F.S. (within rated pressure range) • Linearity: $\pm 1\%$ F.S. • Output impedance: about 1kΩ 		
Analog output (Current Output) *3	<ul style="list-style-type: none"> • Output Current: 4 to 20mA $\pm 2\%$ F.S.(within rated pressure range) • Linearity: $\pm 1\%$ F.S. • Max.Load Impedance: 300Ω at power supply of 12V, • 600Ω at power supply of 24V • Min.Load impedance: 50Ω 		
Environment	Enclosure	IP40	
	Ambient temp.	Operation: 0 ~ 50 $^\circ C$, Storage: -10 ~ 60 $^\circ C$ (No condensation or freezing)	
	Ambient humidity	Operation/Storage: 35 ~ 85% RH (No condensation)	
	Withstand voltage	1000V AC in 1-min (between case and lead wire)	
	Insulation resistance	50Mohm min. (at 500V DC, between case and lead wire)	
	Vibration	Total amplitude 1.5mm or 10G,10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z	
	Shock	100m/s ² (10G), 3 times each in direction of X, Y and Z	
Temperature characteristic	$\pm 0.5\%$ F.S. of detected pressure (25 $^\circ C$) at temp. Range of 0~50 $^\circ C$		
Lead wire	Oil-resistance cable(0.15mm ²)		
Weight	Approx. 95g (with 2 meter lead wire)		

*1.Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.

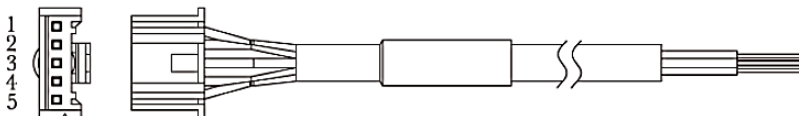
*2.If analog voltage output is selected, the analog current output cannot be selected at the same time.

*3.If analog current output is selected, the analog voltage output cannot be selected at the same time.

*4.If set pressure unit is psi, the value requires to ten multiply by display value.

□ Wiring

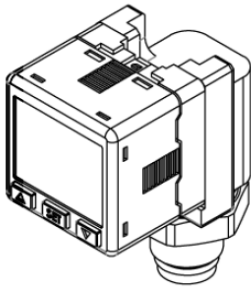
Power and output lead wire with connector



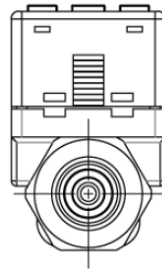
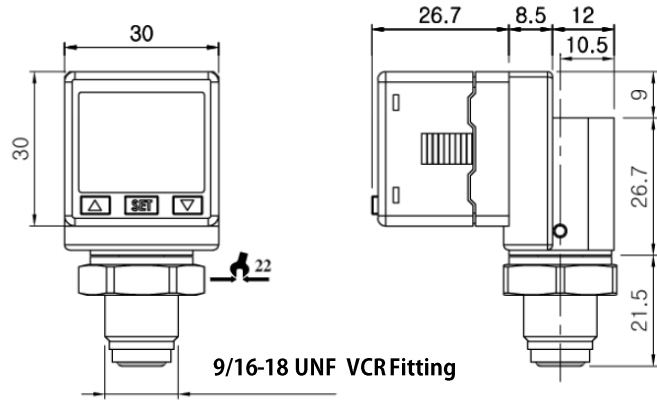
PIN No.	Wire Color
1	Brown (DC+)
2	Orange (Analog)
3	White (Out2)
4	Black (Out1)
5	Blue (DC-)

OPTIONAL PARTS DIMENSIONS

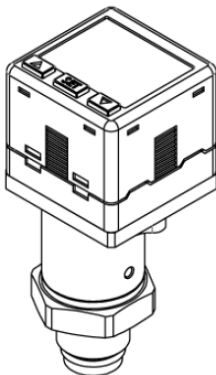
Bracket type1



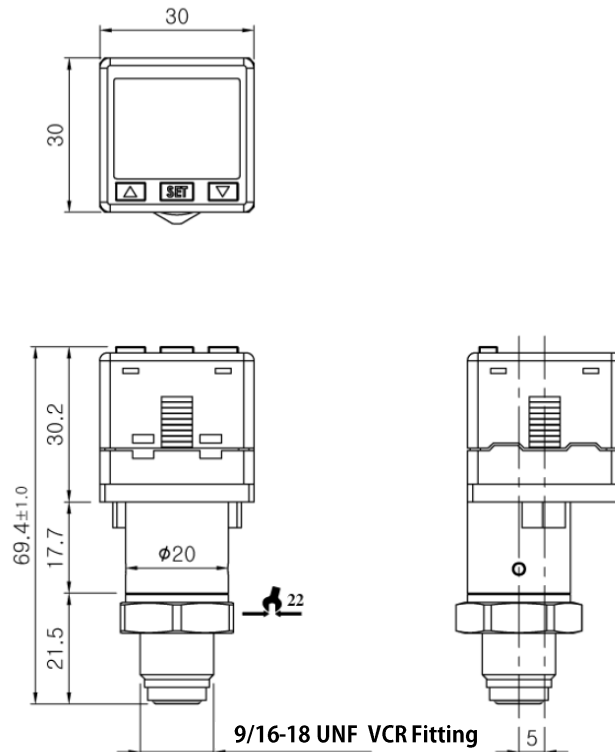
ISOMETRIC VIEW



Bracket type2

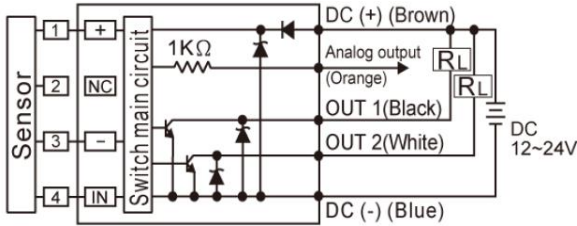


ISOMETRIC VIEW

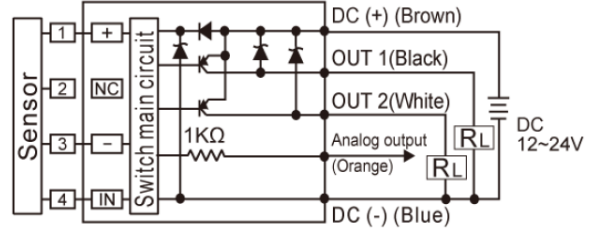


OUTPUT CIRCUIT WIRING DIAGRAMS

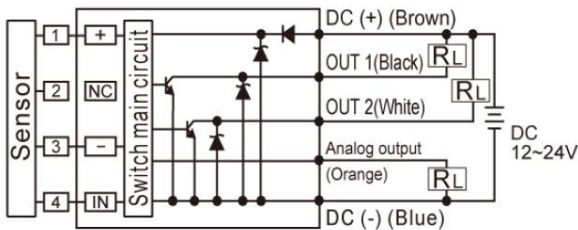
[SM300-A]
2NPN+Analog(Voltage)output



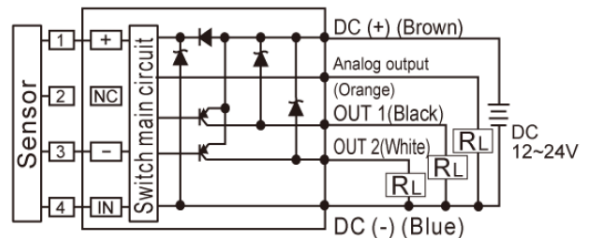
[SM300-D]
2PNP+Analog(Voltage)output



[SM300-B]
2NPN+Analog(Current)output



[SM300-E]
2PNP+Analog(Current)output

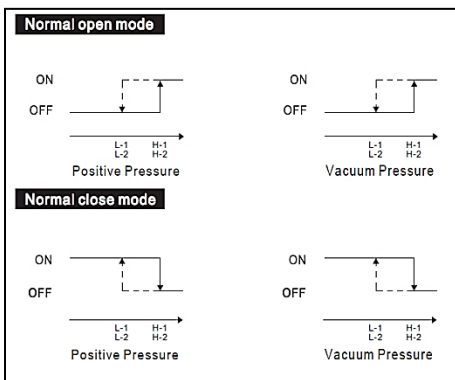


※ Two wire current input only can be used “+” & “OUT” type.

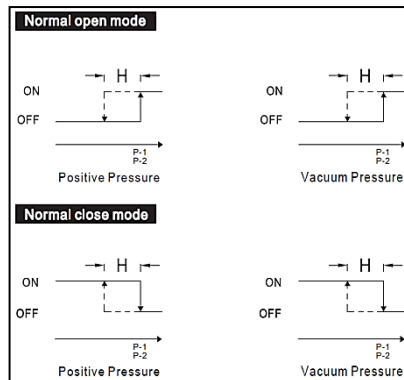
OUTPUT TYPE

Output Type

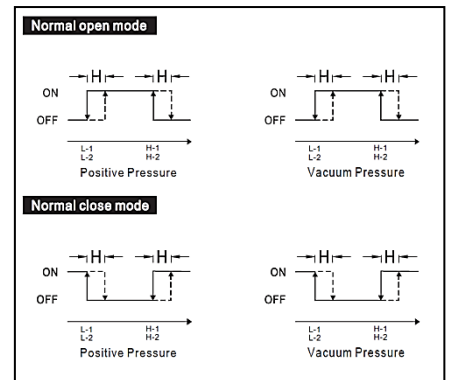
< One point set mode >



< Window comparator mode >



< Hysteresis mode >



[NOTE :]

- *1. In case hysteresis is set at less than or equal to 3 digits, switch output may chatter if input pressure fluctuates near the set point.
- *2. When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch output to malfunction.

ORDER CODE

Order Info.

S M 3 0 0 - A - 1 - L

Input / Output SPEC.

- A** 2 NPN output + 1 Analog output (1~5V)
- B** 2 NPN output + 1 Analog output (4~20mA)
- D** 2 PNP output + 1 Analog output (1~5V)
- E** 2 PNP output + 1 Analog output (4~20mA)

Bracket type

- 1** Bracket type 1
- 2** Bracket type 2

Port Option

- L** 1/4" LOK Fitting
- U** 9/16-18 UNF VCR Fitting

History of document

Document#	DATE	Description

DISCLAIMER

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Setting Info.

: Please refer to the manual supplied with the product.