

# ASM-300

## Digital Pressure Gauge Controller

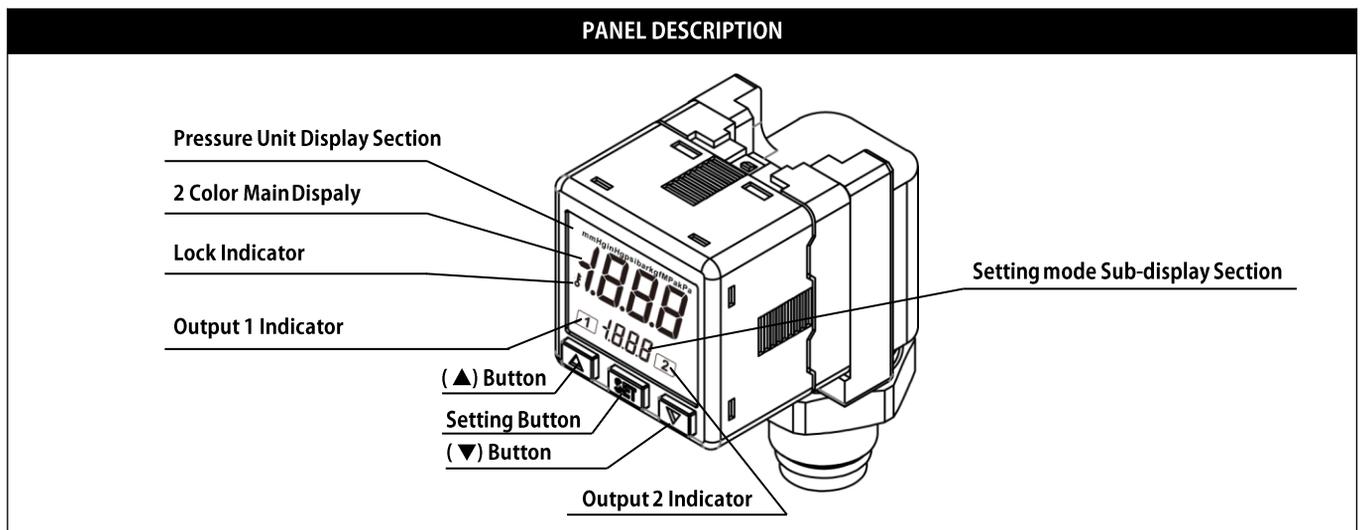
- Power supply voltage 12~24VDC
- Indicator accuracy  $\pm 1.0\%$  F.S
- Ambient Temp range 0 ~ 70 °C
- Pressure connect port : 9/16-18UNF VCR Fitting
- Sensor input 4~20mA or 1~5V
- Application : non-ionic, non-corrosive gas
- Mounting bracket and cable



### □ SPECIFICATIONS

MODEL		ASM-300											
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 <sup>2</sup>	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 <sup>4</sup>	1 <sup>4</sup>
	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		$\leq 40$ mA (With no load)											
Sensor input		1~5V or 4~20mA											

### □ PANEL DESCRIPTION



## □ SPECIFICATIONS DETAILED

MODEL		ASM-300	
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. $\pm 1$ digit	
Hysteresis		<ul style="list-style-type: none"> <li>• One point set mode</li> <li>• Window comparator mode</li> <li>• Hysteresis mode</li> </ul>	
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. $\pm 1$ 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"> <li>• Output Voltage: 1 to 5V <math>\pm 2\%</math> F.S. (within rated pressure range)</li> <li>• Linearity: <math>\pm 1\%</math> F.S.</li> <li>• Output impedance: about 1k<math>\Omega</math></li> </ul>	
Analog output (Current Output) *3		<ul style="list-style-type: none"> <li>• Output Current: 4 to 20mA <math>\pm 2\%</math> F.S.(within rated pressure range)</li> <li>• Linearity: <math>\pm 1\%</math> F.S.</li> <li>• Max.Load Impedance: 300<math>\Omega</math> at power supply of 12V,</li> <li>• 600<math>\Omega</math> at power supply of 24V</li> <li>• Min.Load impedance: 50<math>\Omega</math></li> </ul>	
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 <sup>2</sup> (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 <sup>2</sup> )	
Weight		Approx. 67g (with 2 meter lead wire)	

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

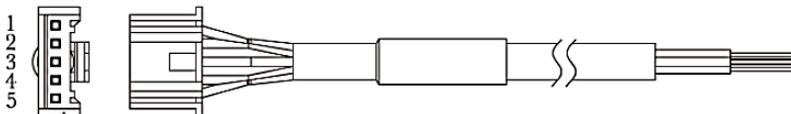
\*2.If analog voltage output is selected, the analog current output cannot be selected at the same time.

\*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

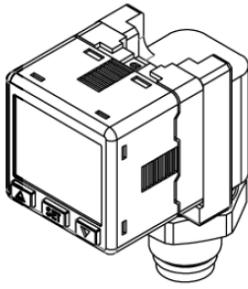
Power and output lead wire with connector



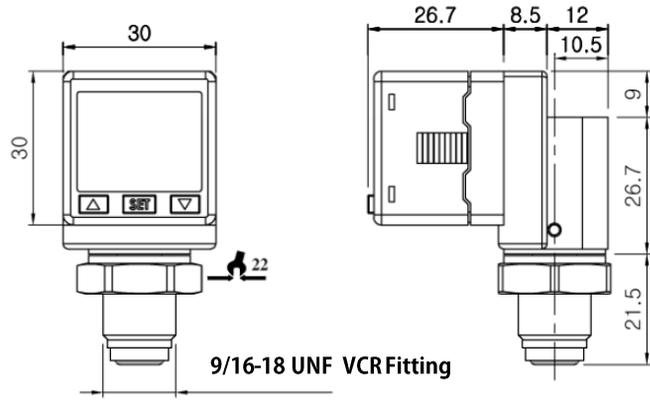
PIN No.	Wire Color
1	Brown (DC+)
2	Orange (Analog)
3	White (Out2)
4	Black (Out1)
5	Blue (DC-)

## OPTIONAL PARTS DIMENSIONS

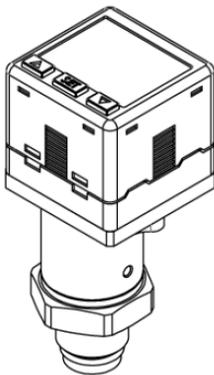
### Bracket type1



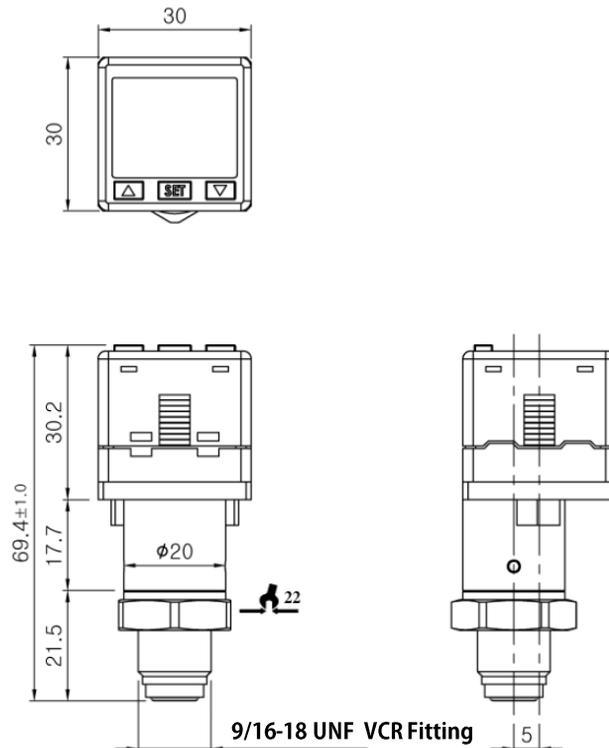
ISOMETRIC VIEW



### Bracket type2

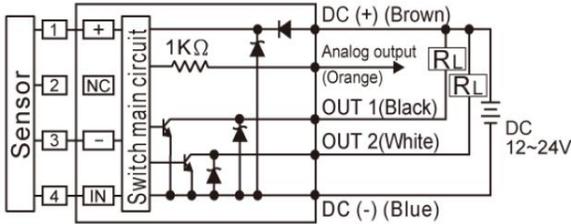


ISOMETRIC VIEW

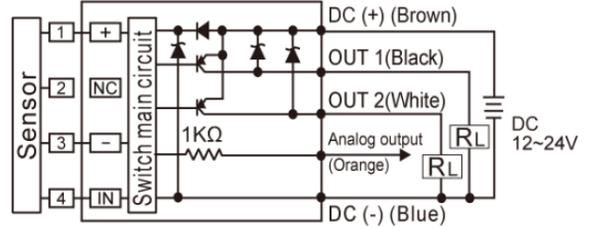


## OUTPUT CIRCUIT WIRING DIAGRAMS

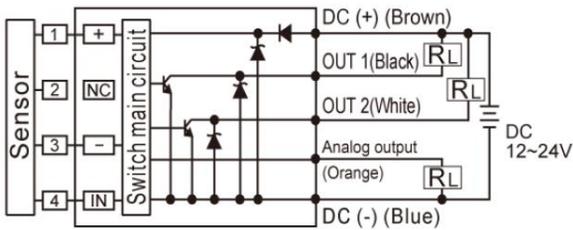
[ASM-300-A]  
2NPN+Analog(Voltage)output



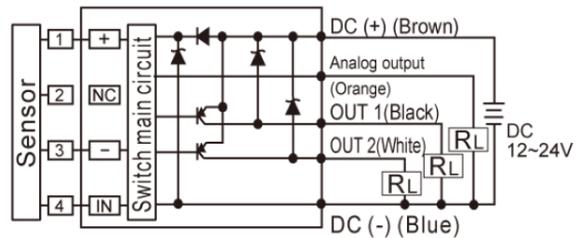
[ASM-300-D]  
2PNP+Analog(Voltage)output



[ASM-300-B]  
2NPN+Analog(Current)output



[ASM-300-E]  
2PNP+Analog(Current)output

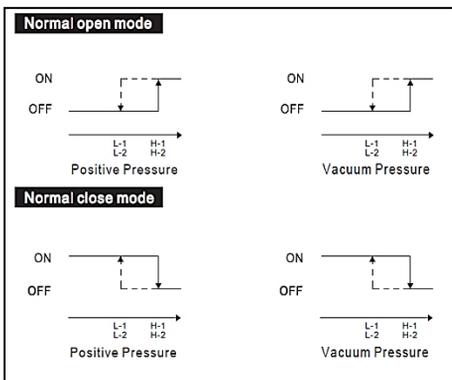


※ Two wire current input only can be used "+" & "OUT" type.

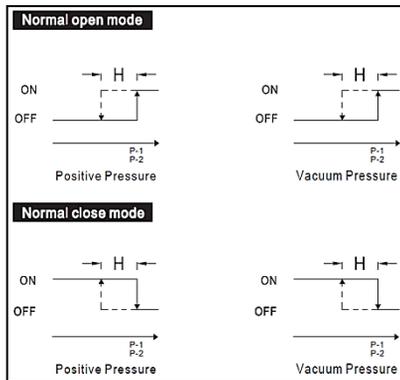
## OUTPUT TYPE

### Output Type

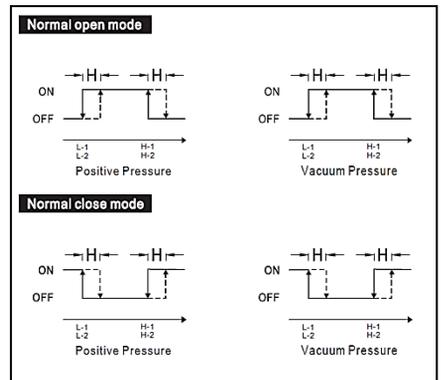
#### < One point set mode >



#### < 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.

**ASM-300 - 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
Rev1.0	2018.09.11	First Release.
Rev1.1	2018.10.18	Changed to Mode "S-7" Pressure range.
Rev1.2(Rev1.2.1)	2019.02.11	Changed to Weight and photo.

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Setting Info.

: Please refer to the manual supplied with the product.