

# Model SMA(CR)

Compact Size(30X30mm) Corrosion Resistance Type  
Digital Pressure Gauge / Switch

## Description

SMA(CR) model is suitable for corrosive environment because of its ceramic pressure cell and Teflon body. This model, also, contains Microprocessor in default. Moreover, it is a Pressure Gauge / Switch with characteristics of LED Display, Analog Output such as 0~5, 1~5, 0~10VDC or 4~20mA, Switching Output 2-Channel NPN or PNP Open Collector. This compact model is fully integrated with Pressure Sensor, Indicator and Switch.

## Features

- ▶ CE Certified
- ▶ Compact design(30mm×30mm)
- ▶ ±1999 Digit LED display
- ▶ 1~5, 0~5, 0~10VDC or 4~20mA analog output
- ▶ 2-channel NPN or PNP open collector output
- ▶ Piezoresistive ceramic cell
- ▶ Measuring range 0~1MPa
- ▶ PTFE, VITON or Perfluoroelastomer media-wetted materials

## Applications

- ▶ Semiconductor Manufacturing Equipment
- ▶ High-purity Fluids
- ▶ Chemical Process
- ▶ Physics and Chemistry Equipment
- ▶ Waste Disposing Equipment

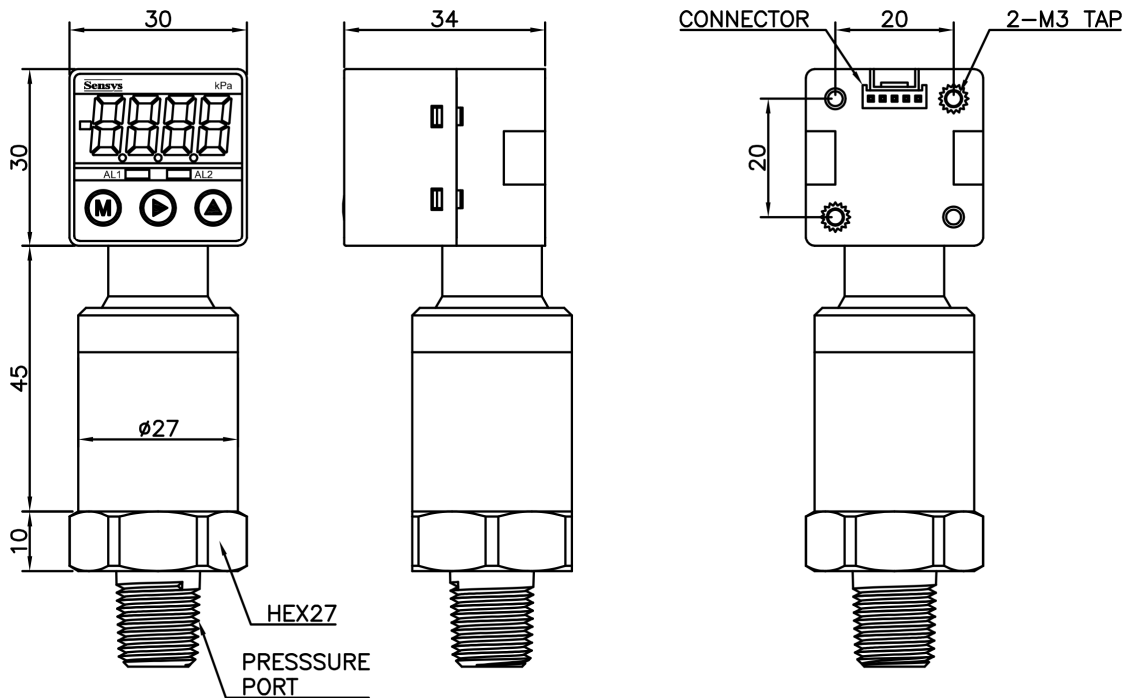


## Specifications

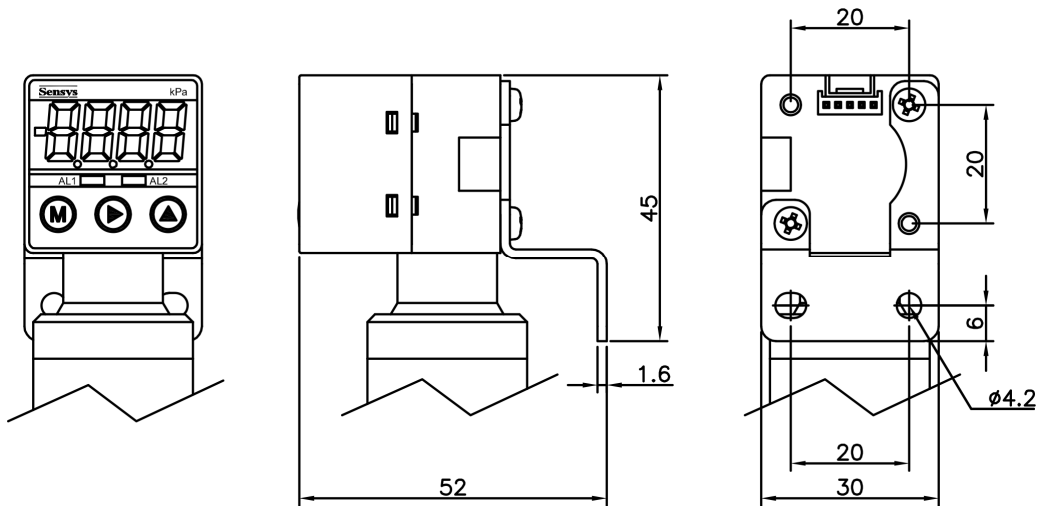
Model	SMA□□		SMA□H
Range	0 ~ 100, 200, 500kPa, 1MPa (Gauge)		
Display Accuracy	±1%FS (25°C)		
Thermal Effect on Zero	±0.06%FS/°C		
Thermal Effect on Span	±0.06%FS/°C		
Compensated Temperature Range	-10 ~ 70°C		
Operating Temperature Range	-20 ~ 80°C		
Display	LED(Red Color) ±1999 Digit		
Excitation	12~24VDC±10%(Ripple P-P Max. 10%)		
Output	Switching Signal	2-Channel NPN or PNP open collector output	-
	Analog Signal	1~5, 0~5, 0~10VDC, 4~20mA(3Wire)	4~20mA(2Wire)
Response Time	20, 100, 500, 1000, 2000ms		
Proof Pressure	150%FS Max.		
Burst Pressure	200%FS Min.		
Pressure Port	R(PT)1/4", 3/8", 1/2", Sleeve 1/4", Flare 1/4"		
Media-Wetted Materials	PTFE, VITON or Perfluoroelastomer		

## Dimension

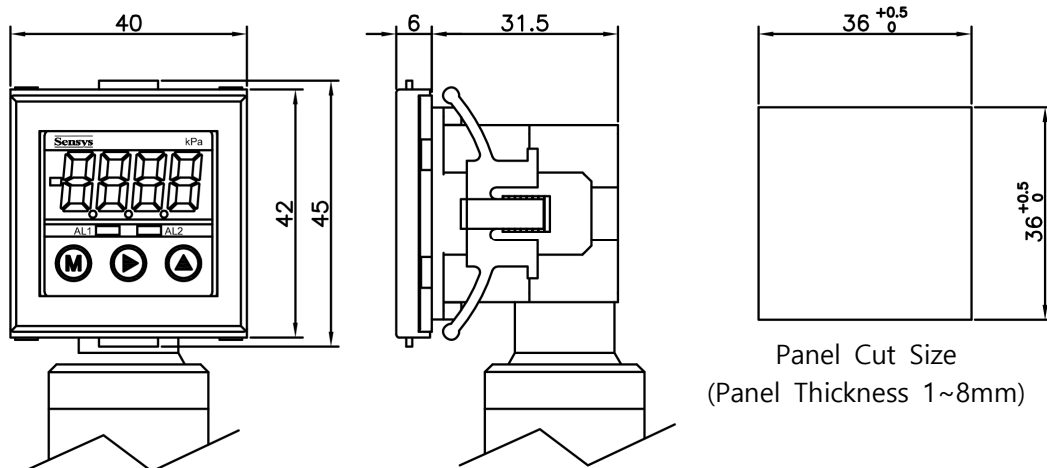
### ► SMAR (Corrosion Resistance / Vertical installation Type)



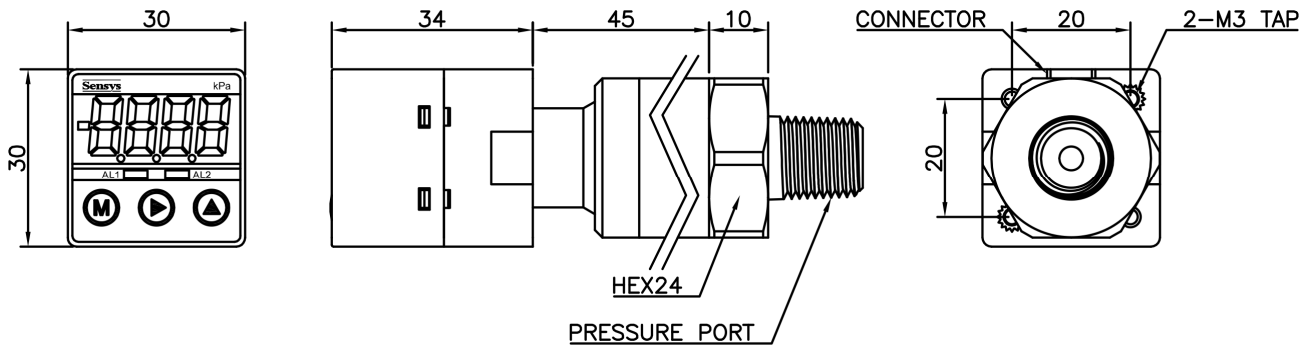
### - Bracket A



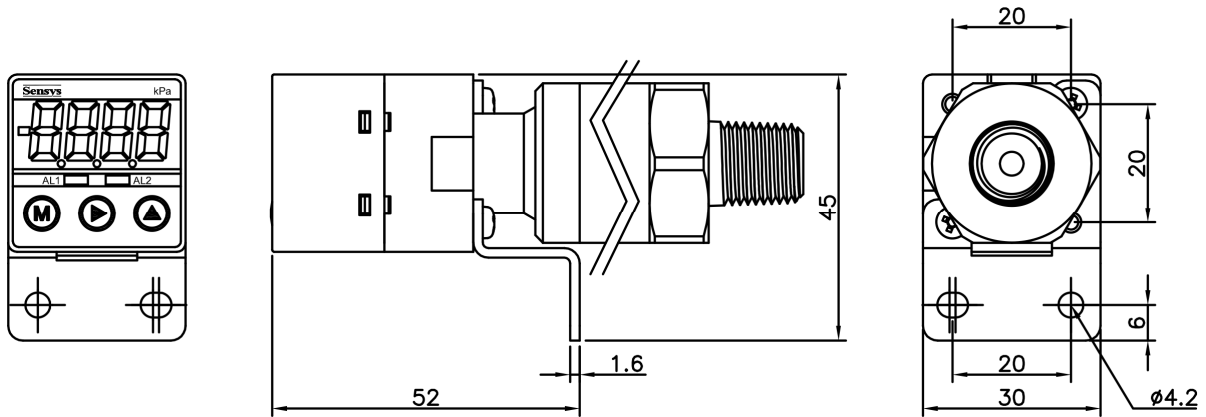
### - Panel Mounting Bracket



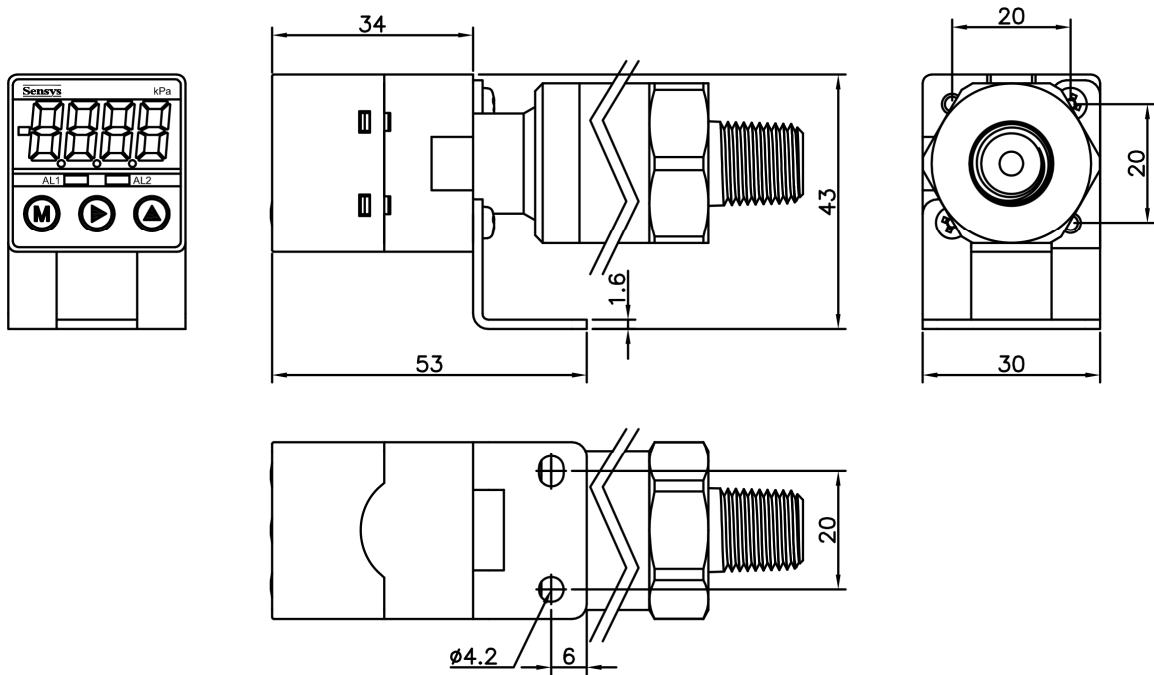
► SMAS (Corrosion Resistance / Vertical installation Type)



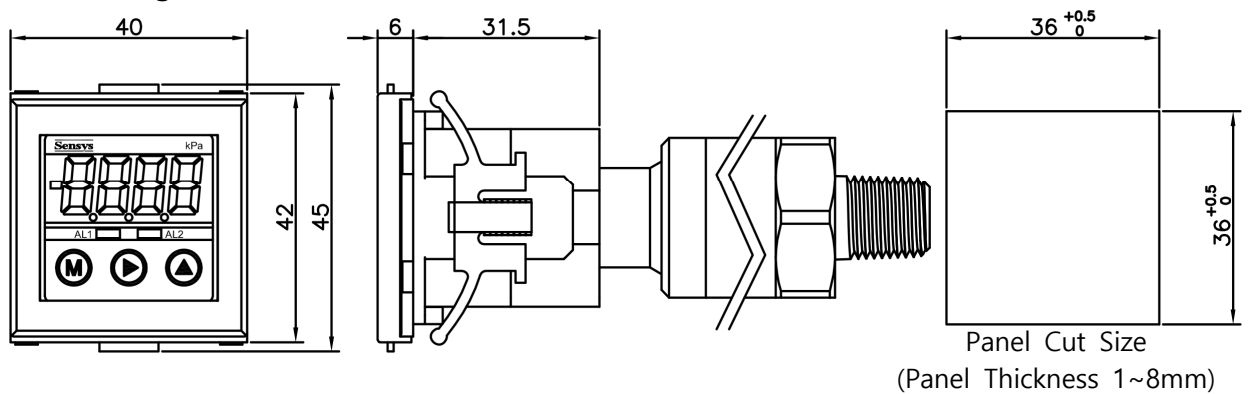
- Bracket A



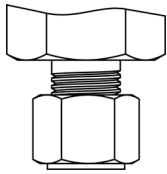
- Bracket B



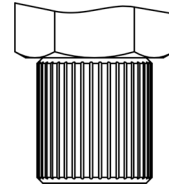
- Panel Mounting Bracket



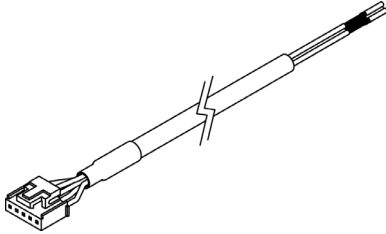
▶ Pressure Port : Sleeve 1/4" Type



▶ Pressure Port : Flare 1/4" type

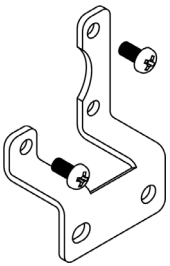


▶ Accessory



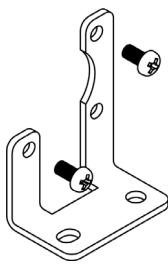
Connector Ass'y (Length : 2m)

▶ Option



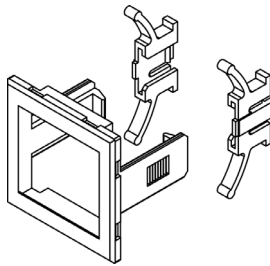
Bracket A

(O/C : SMA-O-A)



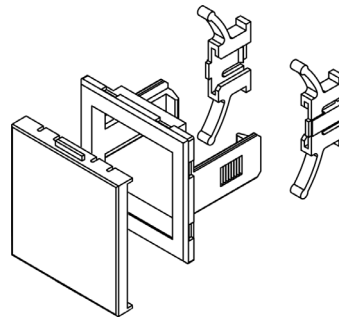
Bracket B

(O/C : SMA-O-B)



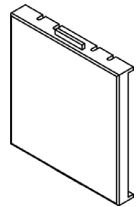
Panel Mounting Bracket Set

(O/C : SMA-O-C)



Panel Mounting Bracket Set  
+ Front Protection Cover

(O/C : SMA-O-D)

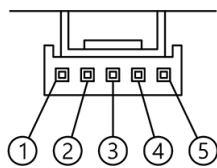


Front Protection Cover

(O/C : SMA-O-E)

\*. O/C : Ordering Code

## Connection



Connector

Pin No.	Wire Color	Connections	Connections 4~20mA(2Wire)
1	Brown	Power+(12~24VDC)	+
2	Gray	Analog output+	NC
3	Black	Alarm 1	NC
4	White	Alarm 2	NC
5	Blue	Com.	-

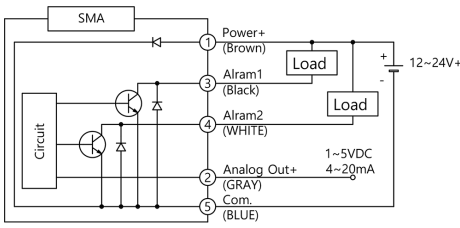
## Function

- ▶ Zero Adjustment
- ▶ 2channel Alarm(NPN or PNP), Alarm mode(High, Low, A, B)<sup>1)</sup>
- ▶ Anti-chattering(Alarm, Analog Output)
- ▶ Unit Conversion
- ▶ Analog Output Scale Adjustment
- ▶ Key Lock

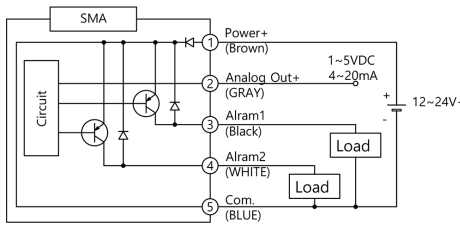
<sup>1)</sup> Except for 4~20mA(2wire) output type

## Internal Circuit Diagram

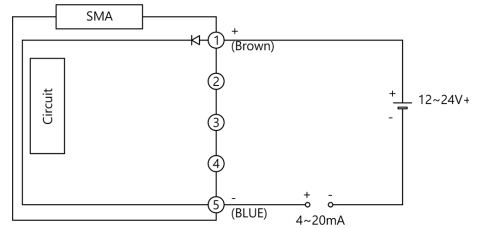
### ▶ NPN Type



### ▶ PNP Type

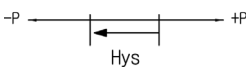
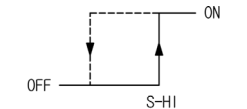


### ▶ 4~20mA(2Wire) Output Type

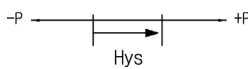
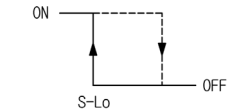


## Alarm Mode

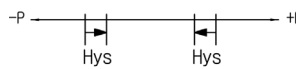
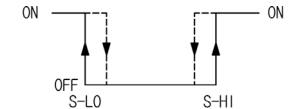
### ▶ Hi Mode



### ▶ Low Mode

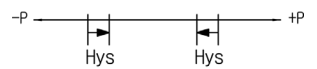
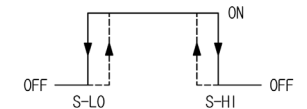


### ▶ A Mode



$$S\text{-HI} - (2 \times \text{Hys}) > S\text{-LO}$$

### ▶ B Mode



$$S\text{-HI} - (2 \times \text{Hys}) > S\text{-LO}$$

## Ordering Information

**SMA R E N 0001 M C G - 000 - A 20**

### Model Name

### Type

R : for Corrosion Resistance / Vertical installation  
S : for Corrosion Resistance / Horizontal installation

### Analog Output

C : 0~5V      J : 0~10V  
E : 1~5V      G : 4~20mA(3Wire)  
H : 4~20mA(2Wire)

### Switch Output

N : NPN Open Collector  
P : PNP Open Collector  
X : No Switch Output<sup>2)</sup>

### Pressure Range

XXXX : Pressure

### Option

A : Bracket A  
B : Bracket B  
C : Panel Mounting Bracket Set  
D : Panel Mounting Bracket Set + Front Protection Cover

### Port Option

A06 : Sleeve 1/4"  
A07 : Flare 1/4"

### Type of Pressure Measurement

G : Gauge

### Pressure port

C : R(PT)1/4"      E : R(PT)1/2"  
A : R(PT)3/8"      V : Port Option

### Pressure Unit

R : kPa      M : MPa

<sup>2)</sup> 4~20mA(2wire) output type only