

## Features

- 2-color digital LCD display
- Copy function
- Programmable pressure unit :  
kPa 、 MPa 、 kgf/cm<sup>2</sup> 、 bar 、 psi 、 inHg
- IP65 enclosure



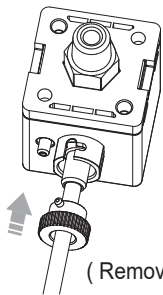
## ■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	AP45C	AP45V	AP45P
1.0 MPa			
100.0 kPa			
0			
-101.3 kPa			
Rated pressure range	-100.0 ~ 100.0 kPa (-14.50 ~ 14.50 psi)	0.0 ~ -101.3 kPa (0.0 ~ -29.9 inHg)	0.000 ~ 1.000 MPa (0.0 ~ 145.0 psi)
Setting pressure range	-101.0 ~ 101.0 kPa (-14.50 ~ 14.50 psi)	10.0 ~ -101.3 kPa (1.45 psi ~ -29.9 inHg)	-0.100 ~ 1.000 MPa (-14.5 ~ 145.0 psi)

## ■ FEATURES HIGHLIGHT

### 1 Quick Installation

- Save installation time
- Easy removal



( Removable data cable )

### 2 Copy Setting

- Avoid setting errors
- Reduce setting time



( Original Parameter )

( Copied )

### 3 Easy Unit Identification

- Conversion unit is on display and easy to read.

inHg | psi | bar | kgf/cm<sup>2</sup> | MPa | kPa



### 4 2-Color Display

- User programmable color mode, for different setting conditions.



	50.0	50.0	0.00	1.00
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

### 5 IP65 Compliance

- Protected against water and dust splash from all directions.



### 6 Environmental Protection Design

- RoHS Compliance / Without Harmful Substance



## ■ SPECIFICATIONS

MODEL		AP45C (Compound)	AP45V (Vacuum)	AP45P (Positive)
Rated pressure range		-100.0 ~ 100.0 kPa (-14.50 ~ 14.50 psi)	0.0 ~ -101.3 kPa (0.0 ~ -29.9 inHg)	0.000 ~ 1.000 MPa (0.0 ~ 145.0 psi)
Set pressure range		-101.0 ~ 101.0 kPa (-14.50 ~ 14.50 psi)	10.0 ~ -101.3 kPa (1.45 psi ~ -29.9 inHg)	-0.100 ~ 1.000 MPa (-14.5 ~ 145.0 psi)
Withstand pressure		300 kPa (43.5 psi)		1.5 MPa (217.6 psi)
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm <sup>2</sup>	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
Power supply voltage		12 to 24V DC $\pm$ 10%, Ripple (P-P) 10% or less (UL class 2)		
Current consumption		$\leq$ 40mA(With no load)		
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V 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)		$\pm$ 0.2% F.S. $\pm$ 1 digit		
Hysteresis	One point set mode	Adjustable( *1)		
	Hysteresis mode			
	Window comparator mode			
Response time		$\leq$ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
Display		3 ½ digital, 7 segment LCD display ( Red / Green / Orange ) ( Sampling rate : 5 times / sec. )		
Indicator accuracy		$\pm$ 2% F.S. $\pm$ 1 digit ( ambient temperature: 25 $\pm$ 3°C)		
Switch ON Indicator		Orange Indicator 1 : OUT1 & Orange Indicator 2 : OUT2		
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V $\pm$ 2.5% F.S. (within rated pressure range) Linearity: $\pm$ 1% F.S. Output impedance: about 1k $\Omega$		
Analog output (Current Output) (*3)		Output Current: 4 to 20mA $\pm$ 2.5% F.S.(within rated pressure range) Linearity: $\pm$ 1% F.S. Max.Load impedance: 250 $\Omega$ at power supply of 12V 600 $\Omega$ at power supply of 24V Min.Load impedance: 50 $\Omega$		
Environment	Enclosure	IP 65		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 60°C ( No condensation or freezing)		
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH ( No condensation)		
	Withstand voltage	1000V AC in 1-min (between case and lead wire)		
	Insulation resistance	50M $\Omega$ (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		$\pm$ 2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size		F1 : R1/8", M5; F2 : NPT1/8", #10-32 UNF; F3 : G1/8"(BSPP), M5 F1C:Rc1/8" ; F2C:NPT1/8" ; F3C: G1/8"(BSPP)		
Lead wire		$\varnothing$ 4 PVC - 26 AWG ( 0.15 mm <sup>2</sup> ) - 5 cores		
Weight (with 2 meter lead wire)		Approx. 86g (with 2 meter lead wire)		

[ NOTE ] \*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.

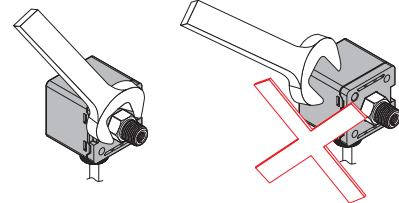
\*3 : If analog current output is selected, the analog voltage output cannot be selected at the same time.

## ■ PANEL DESCRIPTION



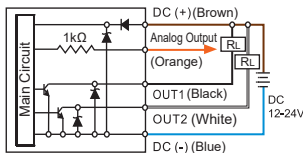
## ■ INSTALLATION PRECAUTIONS

- 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.
- Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply pressure and power after installation and make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.

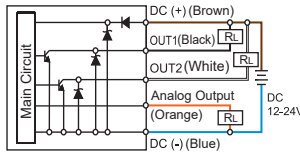


## ■ OUTPUT CIRCUIT WIRING DIAGRAMS

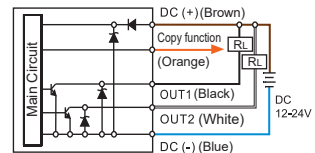
**AP45 □ - 010 - □**  
2 NPN + Analog Output(1~5V)



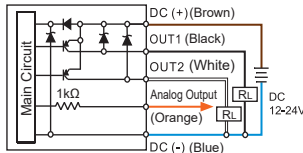
**AP45 □ - 011 - □**  
2 NPN + Analog Output(4~20mA)



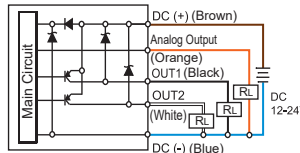
**AP45 □ - 02 - □**  
2 NPN + Copy Function



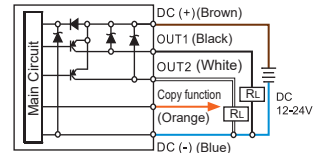
**AP45 □ - 030 - □**  
2 PNP + Analog Output(1~5V)



**AP45 □ - 031 - □**  
2 PNP + Analog Output(4~20mA)



**AP45 □ - 04 - □**  
2 PNP + Copy Function



## ■ ORDERING INFORMATION

**A P 4 5 C - 0 1 0 - F 1**

### Pressure Range

- C** : Compound (-101.0 ~ 101.0kPa)  
(-14.50 ~ 14.50 psi)
- V** : Vacuum (10.0 ~ -101.3kPa)  
(1.45 psi ~ -29.9 inHg)
- P** : Positive(-0.100~1.000MPa)  
(-14.5 ~ 145.0 psi)

### Output Specifications

- 010** : 2 NPN Output & Analog Output(1~5V)
- 011** : 2 NPN Output & Analog Output(4~20mA)
- 02** : 2 NPN Output & Copy Function
- 030** : 2 PNP Output & Analog Output(1~5V)
- 031** : 2 PNP Output & Analog Output(4~20mA)
- 04** : 2 PNP Output & Copy Function

### Pressure Port

- F1** : R1/8", M5 ,with external threads
- F2** : NPT1/8", #10-32UNF,with external threads
- F3** : G1/8"(BSPP), M5,with external threads
- F1C** : Rc1/8", with internal threads
- F2C** : NPT1/8", with internal threads
- F3C** : G1/8"(BSPP), with internal threads

### Optional Parts

- BT-10** : Mounting bracket (for Pressure Port F1~F3)
- BT-11** : Mounting bracket (for Pressure Port F1~F3)
- BT-1** : Mounting bracket (for Pressure Port F1C~F3C)
- BT-17** : Mounting bracket (for Pressure Port F1C~F3C)
- PA-E** : Panel adapter
- PA-F** : Panel adapter + Front protective lid
- CN0054M84QD0.3M** : M8, 4-Pin, male conversion cable
- CN0054M125QD0.3** : M12, 5-Pin male conversion cable

### Optional Parts

#### Mounting bracket



■ BT-10 ■ BT-11 ■ BT-1 ■ BT-17

#### Panel adapter



■ PA-E ■ PA-F

#### Panel adapter + Front protective lid



■ PA-F

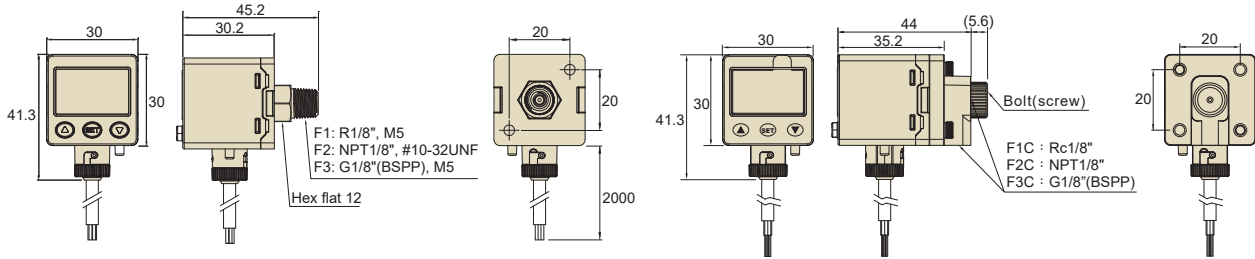
# AP45 SERIES

RoHS



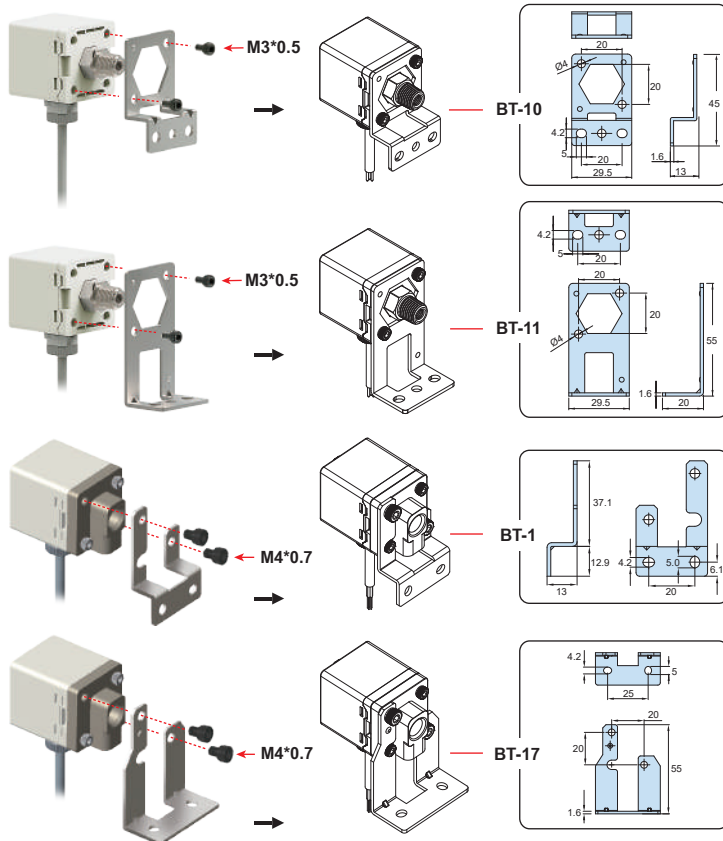
# Pressure Sensor

## DIMENSIONS



## OPTIONAL PARTS DIMENSIONS

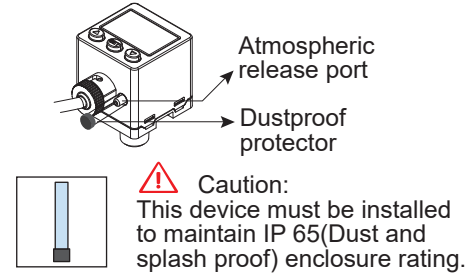
### 1 Mounting Bracket



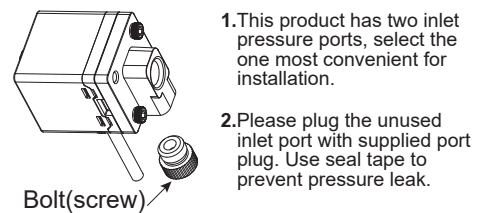
PIN No.	Wire Color
1	DC(-)(Blue)
2	OUT1(Black)
3	OUT2(White)
4	Analog output(Orange)
5	DC(+)(Brown)

Model: CN-0054-01

### 3 IP65 Protector



### 4 AP45 Accessory for pressure port F1C~F3C



### 2 Panel Mount Adapter + Front Protective Lid

