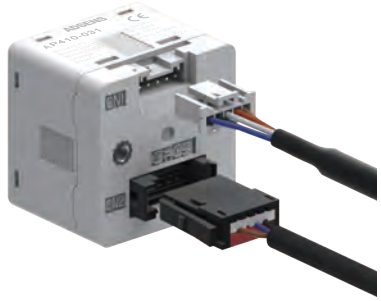
AP400 SERIES

RoHS

Pressure Sensor

Features

- 3-color digital LCD display, easy readout
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg、mmHg
- Dual LCD display allows setting value to be displayed
- Key lock indicator
- Analog output : 1-5V or 4-20mA
- Sensor input : 1-5V or 4-20mA
- 12 pressure ranges for transducer



■ SPECIFICATION

MODEL	AP400											
	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12
40.0 MPa 1.0 MPa 100.0 kPa 0 -101.3 kPa												
	-101.3~0.0kPa -14.69~0.00psi	0.0~100.0kPa 0.00~14.50psi	0.0~2.0kPa 0.0~15.0mmHg	0.0~5.0kPa 0.0~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-101.0~500.0kPa -14.7~72.5psi	0.000~1.000MPa 0.0~145.0psi	0.00~2.00MPa 0~290psi	0.00~2.50MPa 0~363psi	0.00~10.00MPa 0~1450psi	0.0~25.0MPa 0~362psi	0.0~40.0MPa 0~580psi
	10.0~-101.3kPa -14.69~1.45psi	-10.0~100.0kPa -1.45~14.5psi	-0.2~2.0kPa -1.5~15.0mmHg	-0.5~5.0kPa -3.75~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-101.0~500.0kPa -14.7~72.5psi	-0.100~1.000MPa -14.5~145.0psi	-0.10~2.00MPa -15~290psi	-0.100~2.5MPa -15~363psi	0.00~10.00MPa 0~1450psi	0.0~25.0MPa 0~362psi	0.0~40.0MPa 0~580psi
	-101.3~101.3kPa -14.69~14.69psi	-100.0~100.0kPa -14.50~14.50psi	-2.0~2.0kPa -15.0~15.0mmHg	-5.0~5.0kPa -37.5~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-500.0~500.0kPa -72.5~72.5psi	-1.000~1.000MPa -145.0~145.0psi	-2.0~2.0MPa -290~290psi	-2.5~2.5MPa -363~363psi	-10.00~10.00MPa -1450~1450psi	-25.0~25.0MPa -362~362psi	-40.0~40.0MPa -580~580psi

■ FEATURES HIGHLIGHT

1 3-color digital LCD display

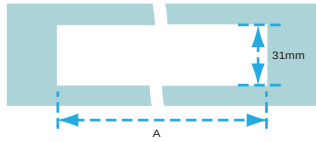
Main display color change with output status
Green <-> Red
Red <-> Green

2 Programmable pressure unit

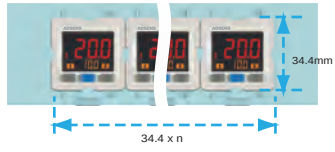
- User selectable pressure unit is indicated on the sub-display section, eliminate pressure unit label
- 7 user programmable pressure units available

3 Save installation space

One panel opening suitable for side-by-side mounting.

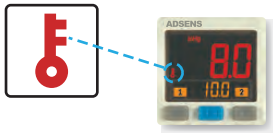


Calculation factor (A) = (34.4 x n) - 3.4
n = number of switches
Actual dimension after installation

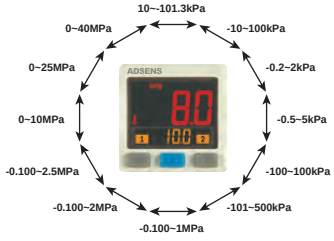


4 Key lock function

Key lock icon is shown on the display when the function is enabled.

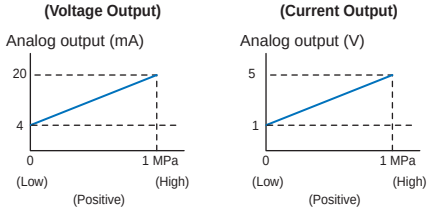


5 12 pressure ranges for transducer



6 Analog output / Sensor input

Current output or voltage output is available

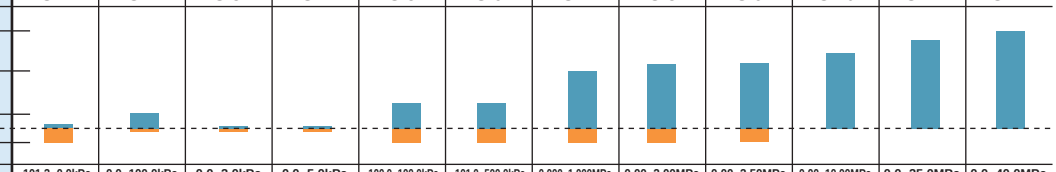


AP400 SERIES

RoHS

Pressure Sensor

SPECIFICATION

MODEL		AP400											
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		-101.3~0.0kPa -14.69~0.00psi	0.0~100.0kPa 0.00~14.50psi	0.0~2.0kPa 0.0~15.0mmHg	0.0~5.0kPa 0.0~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-101.0~500.0kPa -14.7~72.5psi	0.000~1.000MPa 0.0~145.0psi	0.00~2.00MPa 0~290psi	0.00~2.50MPa 0~363psi	0.00~10.00MPa 0~1450psi	0.0~25.0MPa 0~362psi	0.0~40.0MPa 0~580psi
Setting pressure range		10.0~-101.3kPa -14.69~1.45psi	-10.0~100.0kPa -1.45~14.5psi	-0.2~2.0kPa -1.5~15.0mmHg	-0.5~5.0kPa -3.75~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-101.0~500.0kPa -14.7~72.5psi	-0.100~1.000MPa -14.5~145.0psi	-0.10~2.00MPa -15~290psi	-0.100~2.5MPa -15~363psi	0.00~10.00MPa 0~1450psi	0.0~25.0MPa 0~362psi	0.0~40.0MPa 0~580psi
Setting pressure range (Auto-shift input)		-101.3~101.3kPa -14.69~14.69psi	-100.0~100.0kPa -14.50~14.50psi	-2.0~2.0kPa -15.0~15.0mmHg	-5.0~5.0kPa -37.5~37.5mmHg	-100.0~100.0kPa -14.50~14.50psi	-500.0~500.0kPa -72.5~72.5psi	-1.000~1.000MPa -145.0~145.0psi	-2.0~2.0MPa -290~290psi	-2.5~2.5MPa -363~363psi	-10.00~10.00MPa -1450~1450psi	-25.0~25.0MPa -362~362psi	-40.0~40.0MPa -580~580psi
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 ±10%, Ripple (P-P) 10% or less											
Current consumption		≤ 40mA (With no load)											
Sensor input		1~5V or 4~20mA											
Switch output		NPN : open collector 2 outputs Max. load current : 125mA Max. supply voltage : 30V DC Residual voltage : ≤ 1.5V					PNP : open collector 2 outputs Max. load current : 125mA Max. supply voltage : 24V DC Residual voltage : ≤ 1.5V						
Repeatability(Switch output)		±0.1% F.S. ±1 digit											
Hysteresis	One point set mode	Adjustable (*1)											
	Hysteresis mode												
	Window comparator mode												
Response time		≤ 2.5ms (chattering-proof function : 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)											
Output short circuit protection		Yes											
7 segment LCD display		Three color (Red/Green) main & unit display, Orange sub-display (Sampling rate : 5 times/1sec.)											
Indicator accuracy		±1% F.S. ±1 digit (Ambient temperature: 25 ±3°C)											
Switch ON Indicator		Orange (OUT1 and OUT2 indicator)											
Analog output (Voltage Output) (*2)		Output Voltage : 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity : ±1% F.S. Output impedance : about 1kΩ											
Analog output (Current Output) (*3)		Output Current : 4 to 20mA ±2.5% F.S. (within rated pressure range) Linearity : ±1% F.S. Max.Load Impedance : 300Ω at power supply of 12V, 600Ω at power supply of 24V Min.Load impedance : 50Ω											
Environment	Enclosure	IP 40											
	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	50MΩ (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		±0.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C											
Lead wire		Oil-resistance cable (0.15mm^2)											
Weight		Approx. 67g (with 2-meter lead wire)											

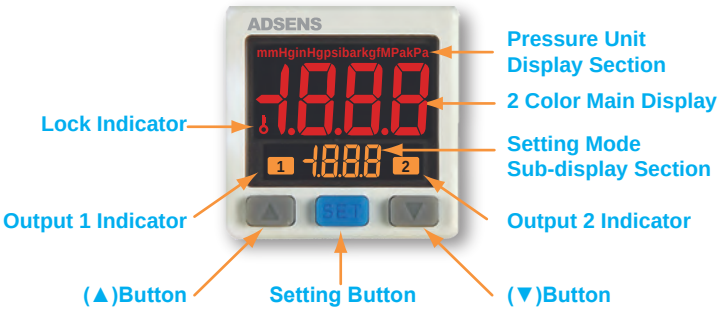
*1. Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2. If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3. If analog current output is selected, the analog voltage output cannot be selected at the same time.
*4. If set pressure unit is psi, the value requires to ten multiply by display value.

AP400 SERIES

RoHS

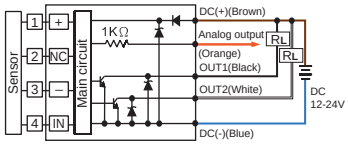
Pressure Sensor

■ PANEL DESCRIPTION

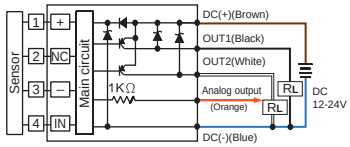


■ OUTPUT CIRCUIT WIRING DIAGRAMS

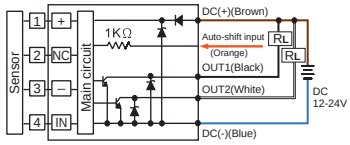
AP4□0 - 010
2 NPN + Analog (Voltage) Output (1-5V)



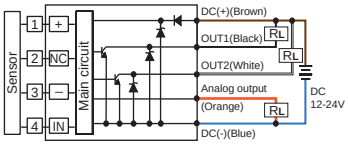
AP4□0 - 030
2 PNP + Analog (Voltage) Output (1-5V)



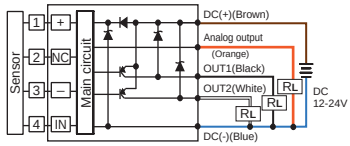
AP4□0 - 05
2 NPN output & Auto-shift input



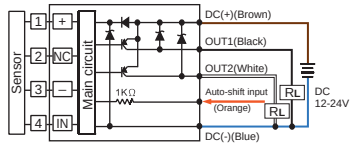
AP4□0 - 011
2 NPN + Analog (Current) Output (4-20mA)



AP4□0 - 031
2 PNP + Analog (Current) Output (4-20mA)



AP4□0 - 07
2 PNP output & Auto-shift input



■ ORDERING INFORMATION

A P 4 1 0 - 0 1 0

Input Specifications
1: Voltage input
2: Current input

Output Channel
0: 1 Channel

Standard Part
CN-0048-01:
Power supply / Output connection cable

Standard Part

Input / Output Specifications
010: 2 NPN outputs & 1 Analog output (1-5V)
011: 2 NPN outputs & 1 Analog output (4-20mA)
05: 2 NPN outputs & 1 Auto-shift input
030: 2 PNP outputs & 1 Analog output (1-5V)
031: 2 PNP outputs & 1 Analog output (4-20mA)
07: 2 PNP outputs & 1 Auto-shift input

Optional Parts
BT-8: Mounting bracket
BT-9: Mounting bracket
PA-C: Panel adapter
PA-D: Panel adapter + Front protective lid
CN-0046A: Sensor connector Ø0.8 ~ Ø1.0 mm, 26~24AWG
CN-0046B: Sensor connector Ø1.0 ~ Ø1.2 mm, 26~24AWG
CN-0046C: Sensor connector Ø1.2 ~ Ø1.6 mm, 26~24AWG
AP10□-01: Transducer

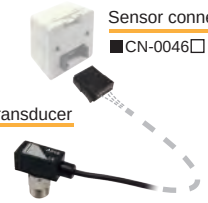
Optional Parts

Mounting bracket

■ BT-8 ■ BT-9

Sensor connector
■CN-0046□

Transducer



■AP10□-01

Panel adapter

■ PA-C

Panel adapter+Front protective lid

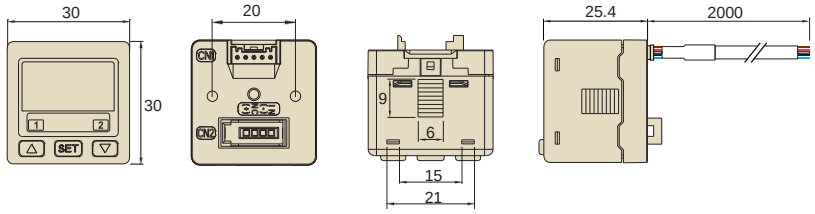
■ PA-D

AP400 SERIES

RoHS

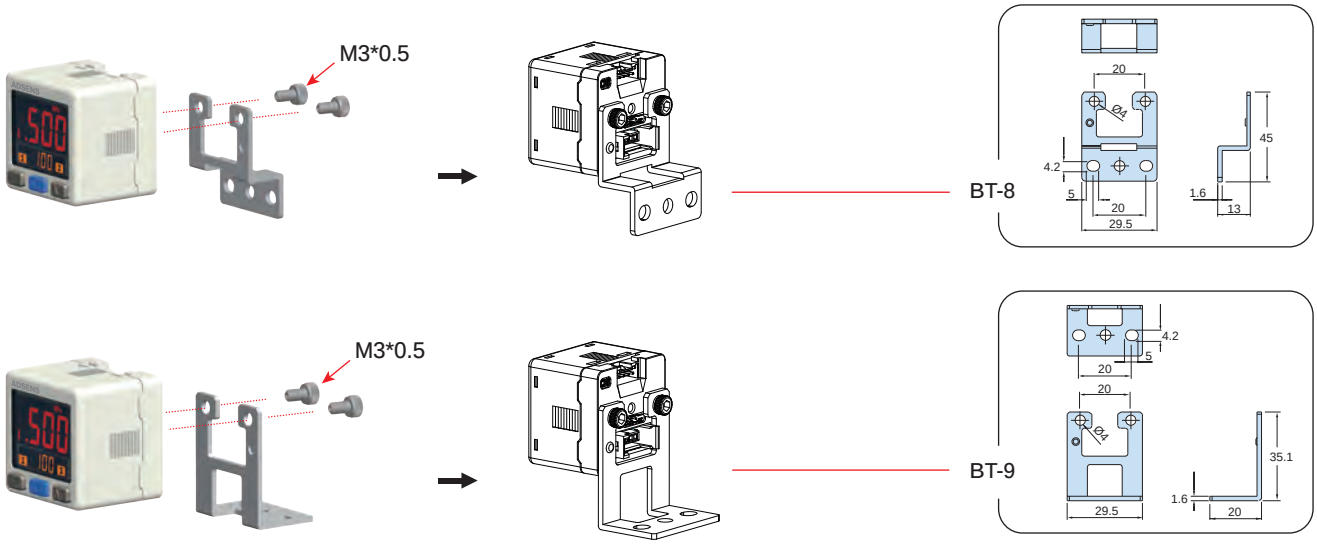
Pressure Sensor

DIMENSION

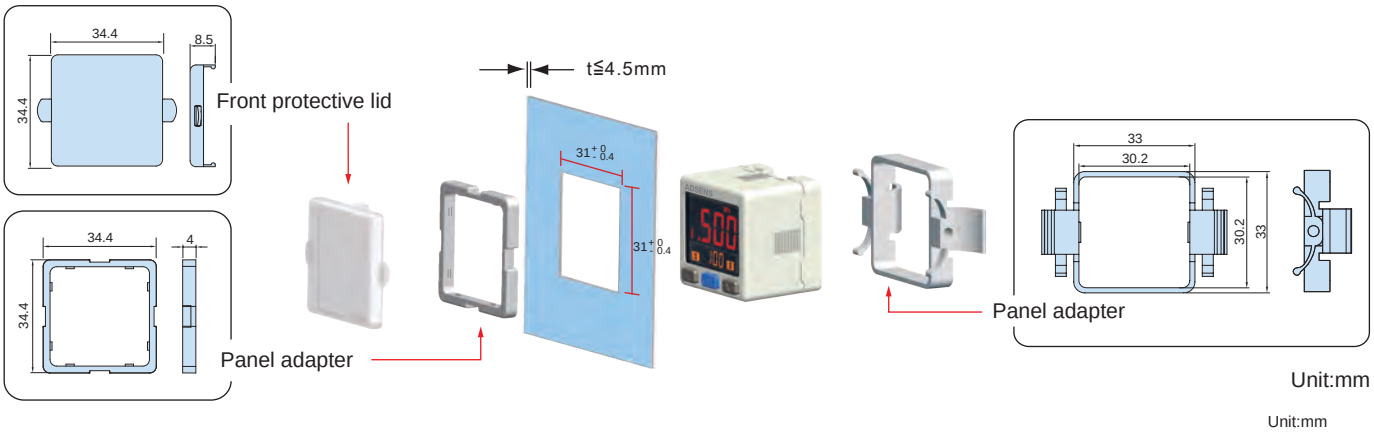


OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



Unit:mm

Unit:mm