

DPS Series digital display pressure switch



Ordering code

DPS N1 □ -01 020 T

① ② ③ ④ ⑤ ⑥

① Model	② Output type	③ Electrical entry
DPS: Digital Display Pressure Switch	N1: NPN P1: PNP	Space: Plug-in connector B: Pre-wired type [Note]
④ Measurement range	⑤ Lead wire length	⑥ Piping specifications
01: -15psi~15psi 10: -15psi~150psi	020: Length 2m 030: Length 3m 050: Length 5m	T: Male thread NPT1/8, female thread: 10-32UNF

[Note] The safety grade of pre-wired type is IP63.

Specification

Input power	Voltage	12~24 VDC $\pm$ 10% Ripple(p-p) < 10%
Pressure range	Fluid	Non-corrosive gas
	Measurement range	DPSN1(P1)-01: -15psi~15psi
		DPSN1(P1)-10: -15psi~150psi
	Withstand pressure	DPSN1(P1)-01: 30psi
		DPSN1(P1)-10: 225psi
	Measurement error	$\pm$ 2% F.S. , $\pm$ 1digit(Temperature:25 $\pm$ 3 $^{\circ}$ C)
Display	Repetitive accuracy	$\pm$ 0.2% F.S.
	Temperature error	$\pm$ 3% F.S.(Base 25 $^{\circ}$ C , Range 0 to 50 $^{\circ}$ C)
	Type	Double row LCD display,4-digit measurement, 3.5-digit setting
	Color	2-color LCD (Red/Green)
Output	Display period	100ms、250ms、500ms、1,000ms
	Output group	DPSN1:Built-in two sets of NPN output
		DPSP1:Built-in two sets of PNP output
	Transistor output	NPN:Maximum applied voltage 30V/100mA,Retained voltage <1.5V PNP:Maximum applied voltage 30V/100mA,Retained voltage <1.5V
	Output delay time	2ms、20ms、50ms、100ms、250ms、500ms
		1,000ms、2,500ms、5,000ms
Pressure Unit	Hysteresis	DPSN1(P1)-01: 0.1、0.2、0.3..... 0.8(kPa)
		DPSN1(P1)-10: 1、2、3..... 8(kPa)
	Output mode	Basic mode, Hysteresis mode, Window comparator mode
	DPSN1(P1)-01	kPa、kgf/cm ² 、bar、psi、mmHg、inHg
Vibration resistance	DPSN1(P1)-10	MPa、kPa、kgf/cm ² 、bar、psi、cmHg、inHg
Impact resistance		10 to 500Hz with 10mm Amplitude in X, Y, Z directions for 2hrs
Operating Temp. range		Maximum 100m/s ² , X, Y, Z directions 3 times each
Stored Temp. range		0~50 $^{\circ}$ C
Humidity range		-20~65 $^{\circ}$ C
		35% ~80% RH(No condensation)

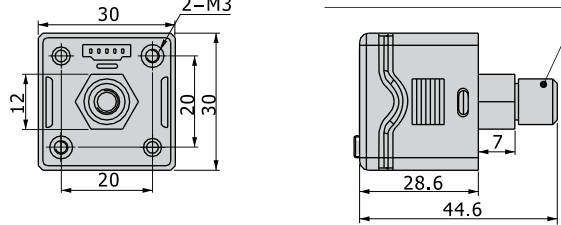
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Dimensions

Plug-in connector

Piping specifications:

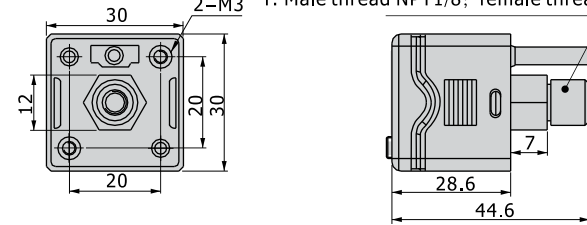
T: Male thread NPT1/8; female thread: 10-32UNF



Pre-wired type

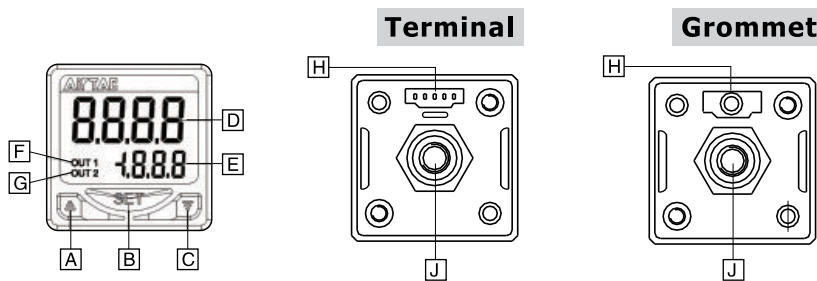
Piping specifications:

T: Male thread NPT1/8; female thread: 10-32UNF



[Unit: mm]

User interface Instruction



No.	Item
A	Value up button
B	Setting button
C	Value Down button
D	Pressure display area
E	Set pressure display area
F	Output 1 indicator light
G	Output 2 indicator light
H	Power and signal connector
J	Pressure input

User Interface Instructions

1. Mode switch

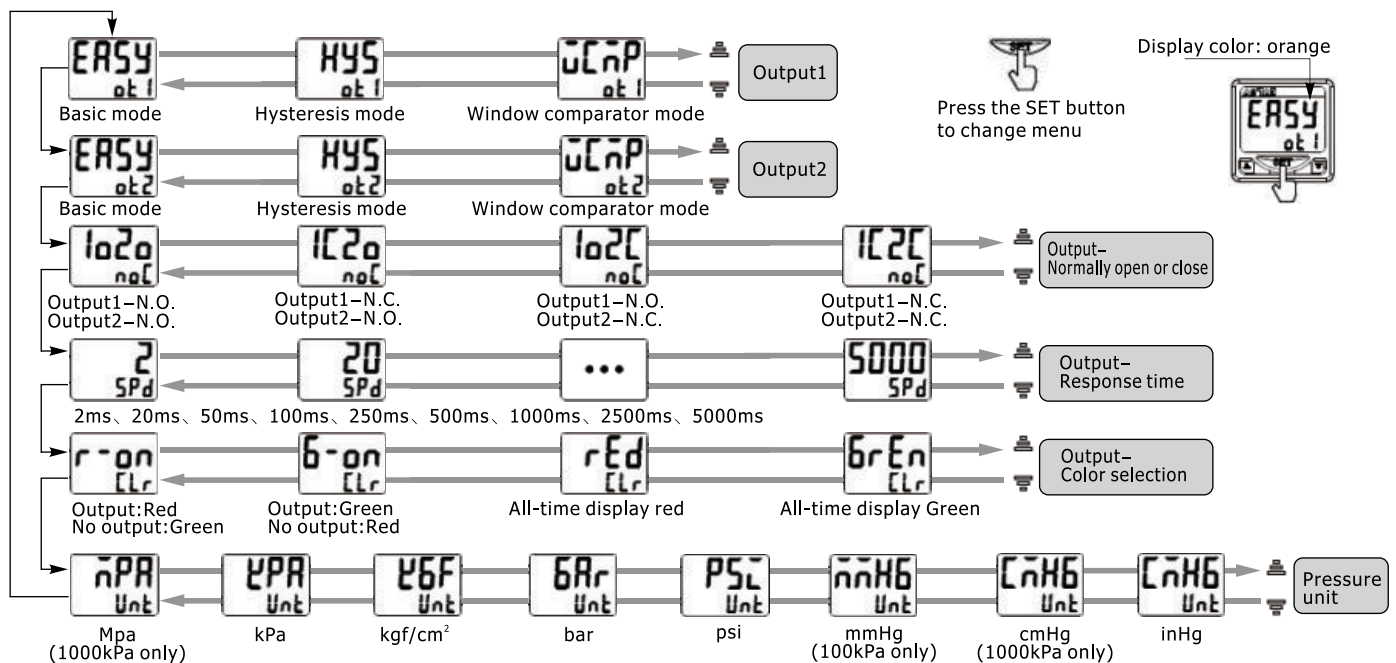
(Basic mode)

(Measurement mode)

(Advanced mode)



2. Basic mode

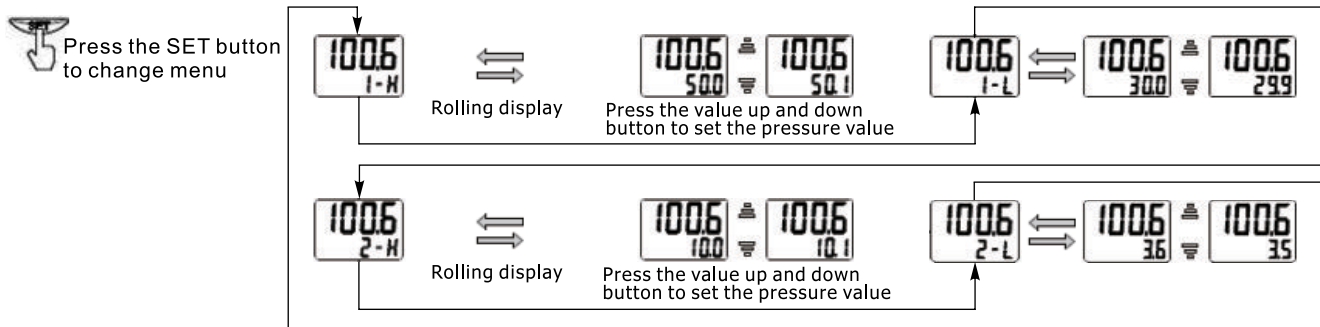


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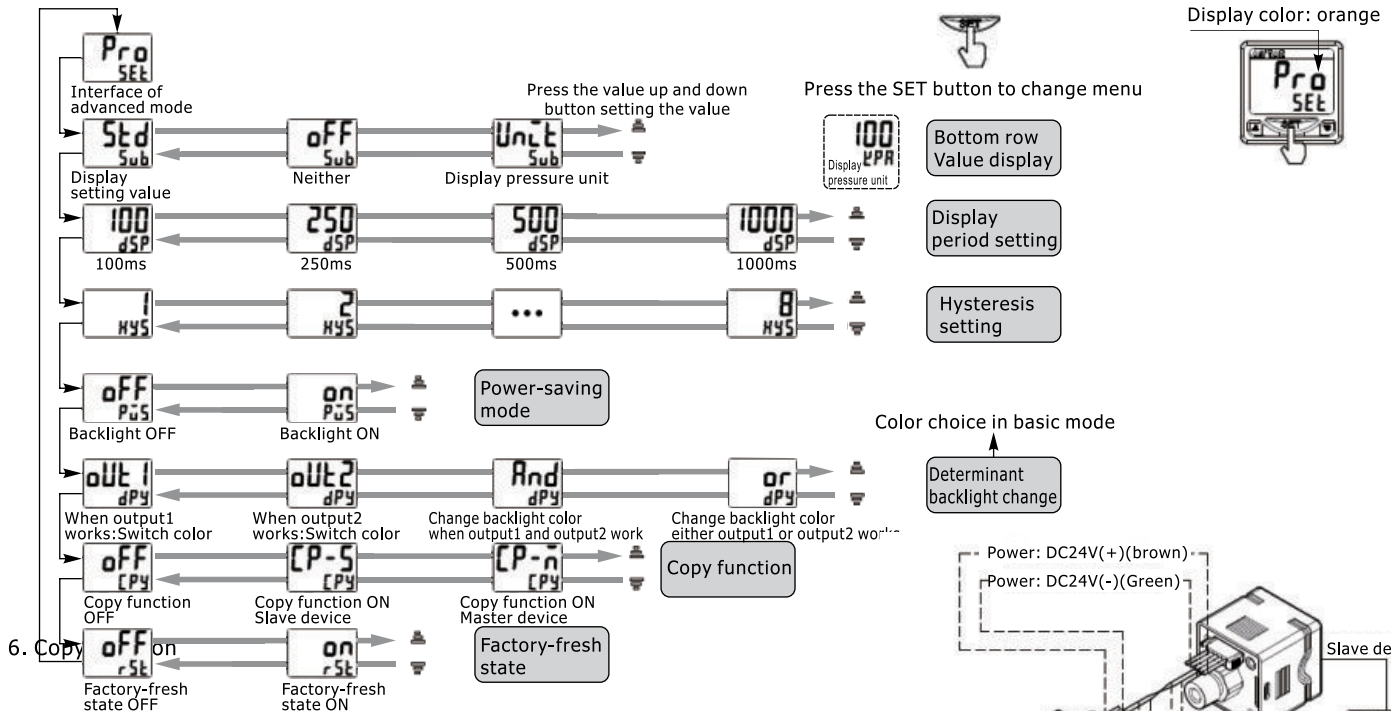
3. Base mode pressure setting



4. Hysteresis /window comparator mode

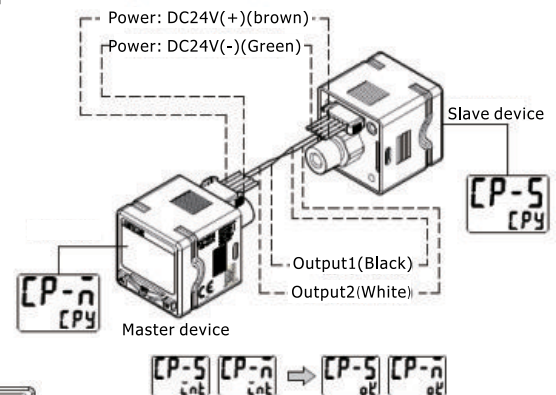


5. Interface of advanced mode



6. Copy

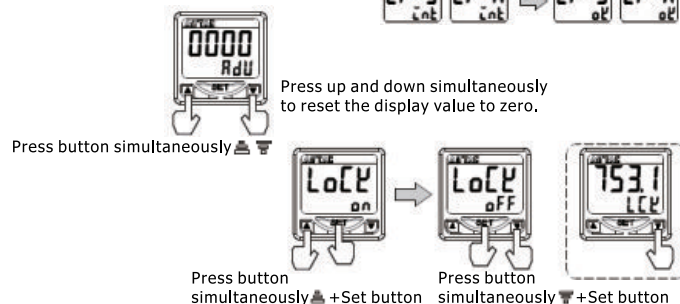
- 6.1. Hardware: Connect the second pin of master device with the third pin of slave device, then power on after connecting
- 6.2. Software: Set "CP-M" on master device. Set "CP-S" on slave device.
- 6.3. Icon of copy completed Repeat step 1 and 2 if copy failed.
- 6.4. Turn off the power, disconnected devices and restart it after setting.



7. Zero-Clear Function

8. Key lock Function

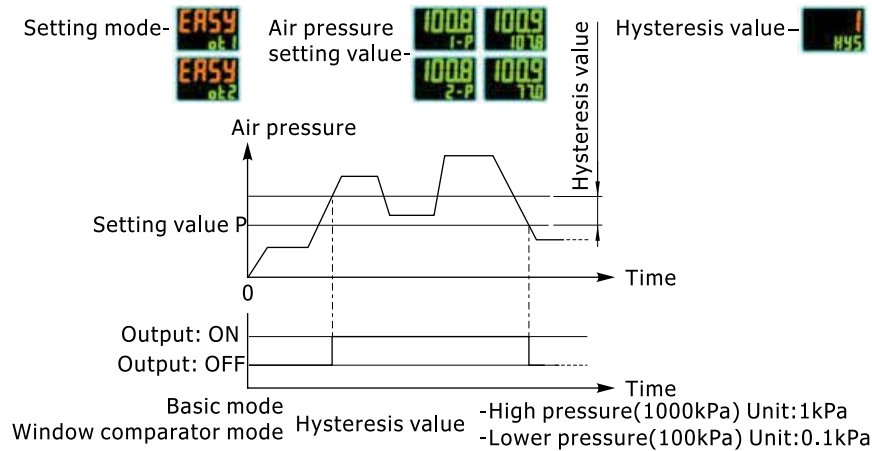
- 8.1. Press up and the set button simultaneously. Release it when the display turns to "LoCK on".
- 8.2. Press down and the set button simultaneously. Release it when the display turns to "LoCK off".
- 8.3. Press any button will display "LCK" in lock on mode.



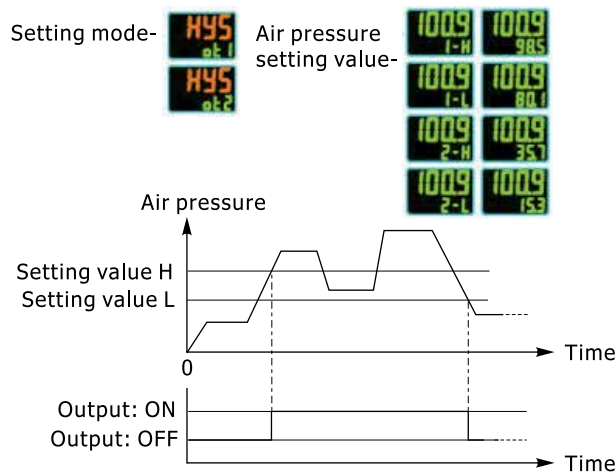
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Output mode

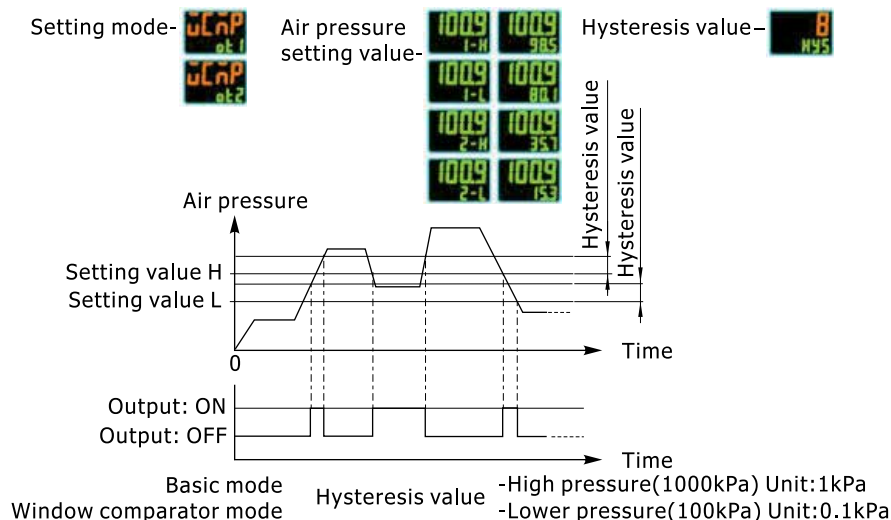
- 1. Basic mode:** Air pressure setting value 'P'. When air pressure large then (Setting value P+Hysteresis value), the output is 'NO'. When air pressure less than setting value 'P', the output is 'OFF'.



- 2. Hysteresis mode:** Air pressure setting value 'H/L'. When air pressure large then setting value 'H', the output is 'NO'. When air pressure less than setting value 'L', the output is 'OFF'.



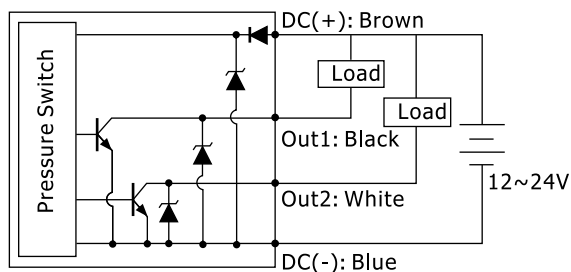
- 3. Window comparator mode:** Air pressure setting value 'H/L'. When air pressure large then value 'H' or less than value 'L', the output is 'OFF'. When air pressure large then value 'L' and less than value 'H', the output is 'ON'.



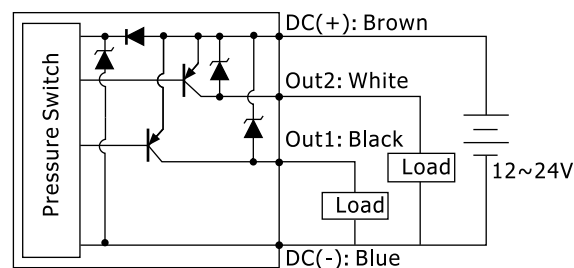
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Connection Example

NPN Output



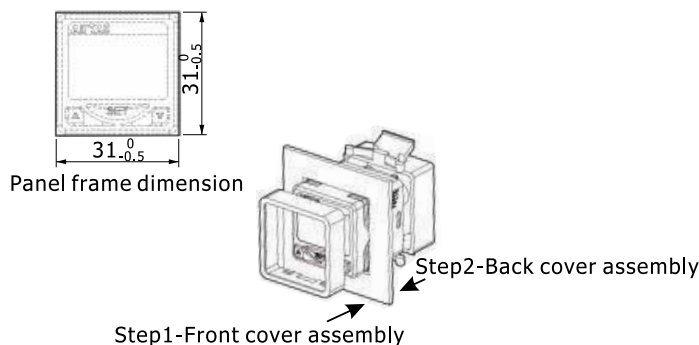
PNP Output



Dimensions/Assembly Instruction

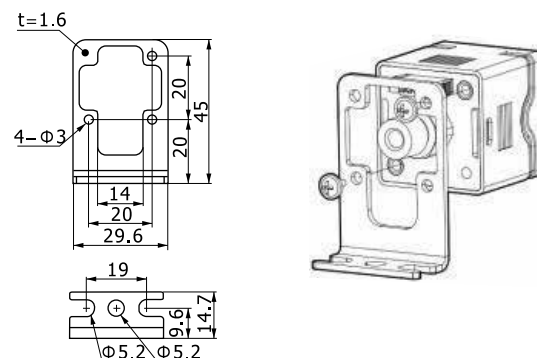
Panel mount adapter + Front protective cover

Order the Install accessories (Ordering code: F-DPSEB)



Bracket

Order the Install accessories (Ordering code: F-DPSLB)



Notes

1. Do not drop knock or apply excessive impact while handling. Otherwise could cause damage and a malfunction.
2. The tensile strength of the cord is 60N. Applying a greater pulling force on it can cause a malfunction.
3. Do not exceed the screw-in torque of 7N.m when installing piping. Exceeding this value may cause malfunctioning of the sensor.
4. Do not use it with corrosive and/or flammable gases or liquids.
5. Please use it within rated pressure range.
6. Turn off the power before connecting the wires.
7. Don't use in an environment with spattering liquid of oil or solvent.
8. Separate power lines from high voltage lines, avoiding wiring in the same conduit with these lines.