

For your safety, please read the following before using.

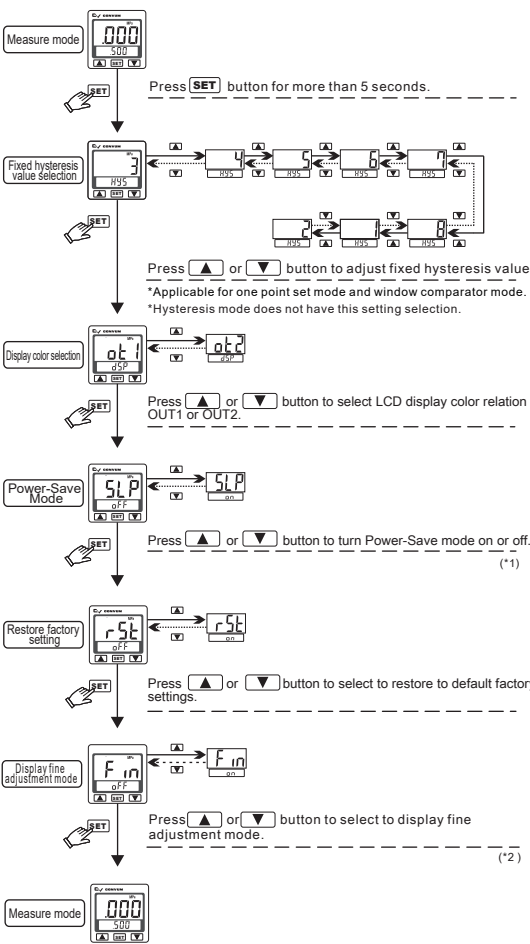
- ① Do not use corrosive or flammable gas or liquid with this product.
- ② Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
- ③ Do not drop, hit or allow excessive shock. Even if switch body appears undamaged, internal components may be broken and can cause malfunction.
- ④ Turn power off before connecting wiring. Wrong wiring or short circuit will damage and / or cause malfunction.
- ⑤ Do not use in environment containing steam or oil vapor.
- ⑥ This product is not explosion-proof rated. Do not use in atmosphere containing flammable or explosive gases.
- ⑦ Wiring for pressure sensor should avoid power source line and high voltage line. If use in the same circuit, noise may cause malfunction.

A. SPECIFICATIONS

TYPE		MPS-P35 (Positive)	MPS-R35 (Compound)	MPS-C35 (Compound)	MPS-V35 (Vacuum)
Rated pressure range		0.000~1.000MPa	-101~500kPa	-100.0~100.0kPa	0.0~101.3kPa
Setting pressure range		-0.100~1.000MPa	-101~500kPa	-101.0~101.0kPa	10.0~101.3kPa
Withstand pressure		1.5MPa		300kPa	
Fluid		Filtered air, Non-corrosive / Non-flammable gas			
Set pressure resolution	kPa	—	1	0.1	
	MPa	0.001	—	—	
	kgf/cm ²		0.01	0.001	
	bar		0.01	0.001	
	psi		0.1	0.01	
	inHg		—	0.1	
mmHg		—		1	
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less			
Current consumption		≤ 40mA (With no load)			
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)		± 0.2% F.S. ±1 digit			
Hysteresis	One point set mode	Adjustable (*1) (*4)			
	Hysteresis mode				
	Window comparator mode				
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)			
Output short circuit protection		Yes			
Display		3 ½ digital, 7 segment LCD display (Red / Green / Orange) (Sampling rate : 5 times / sec.)			
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)			
Switch on indicator		Orange Indicator 1 : OUT1 & Orange Indicator 2 : OUT2			
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			
	Enclosure	IP 40			
Environment	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		±2.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C			
Port size		R:R1/8", M5; N:NPT1/8", #10-32UNF; G: G1/8"(BSPP), M5			
Lead wire		Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15mm ²) - 5 cores			
Weight		Approx. 80g (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.
Current output is an optional function.

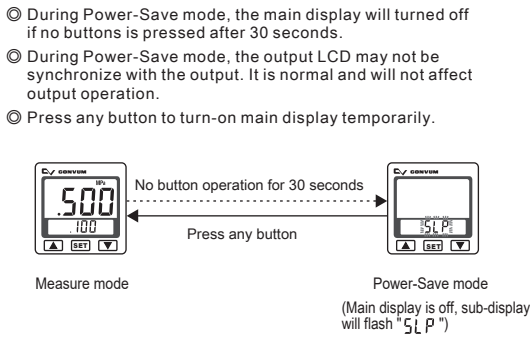
H. ADVANCE SETTING MODE



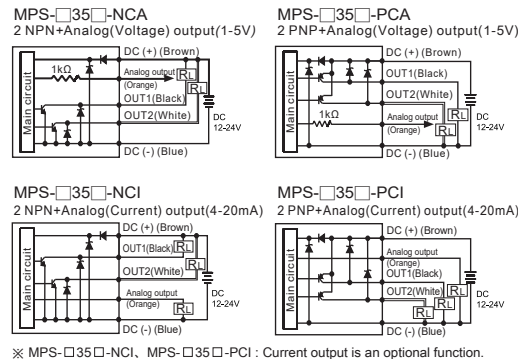
【NOTE :】

- *1. When setting is " [HYS] ", the power-save mode is active. Please refer to the item " [] " in detailed.
- *2. When setting is " [Fm] ", the display fine adjustment mode is active. Please refer to the item " [P] " in detailed.

I. POWER-SAVE MODE

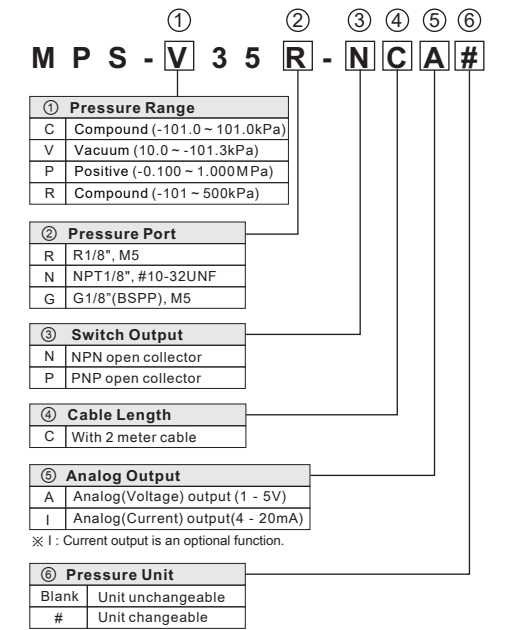


B. OUTPUT CIRCUIT WIRING DIAGRAMS



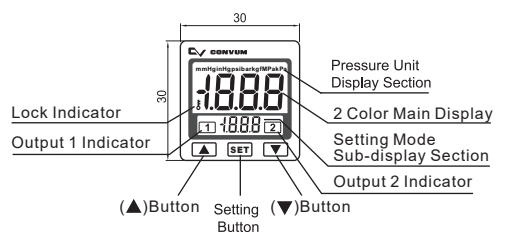
※ MPS-35□-NCI, MPS-35□-PCI : Current output is an optional function.

C. ORDERING INFORMATION

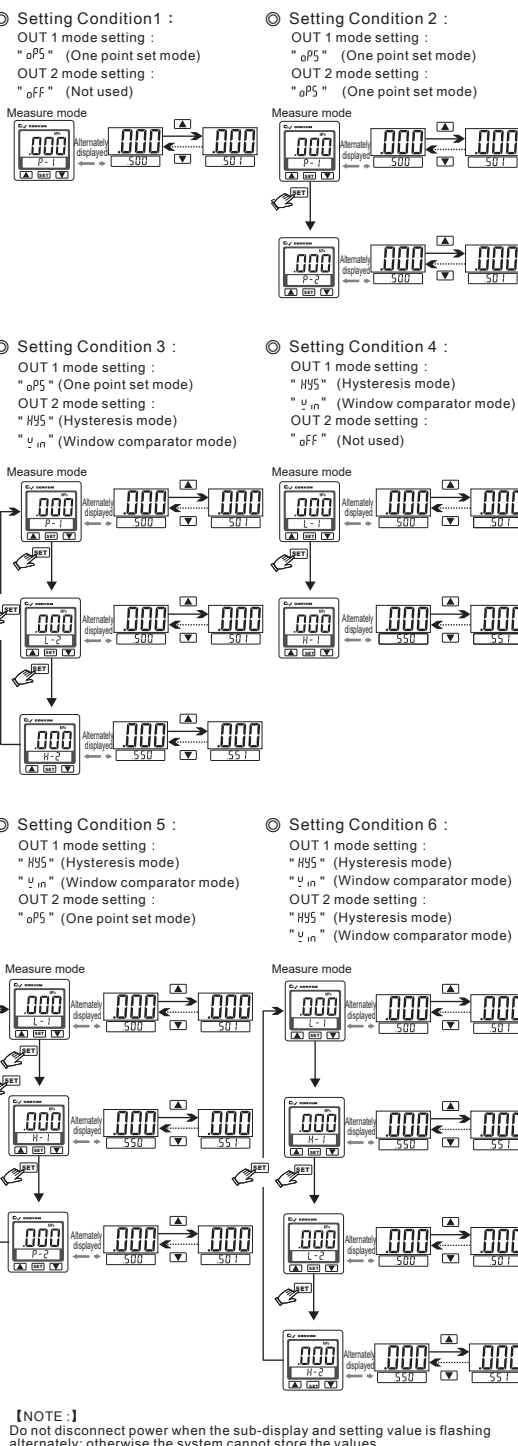


Optional Parts	
MPS-ACCH9(PA-D)	Panel adapter + Front protective lid
MPS-ACCK11(BT-12+BT-13)	Mounting bracket

D. PANEL DESCRIPTION

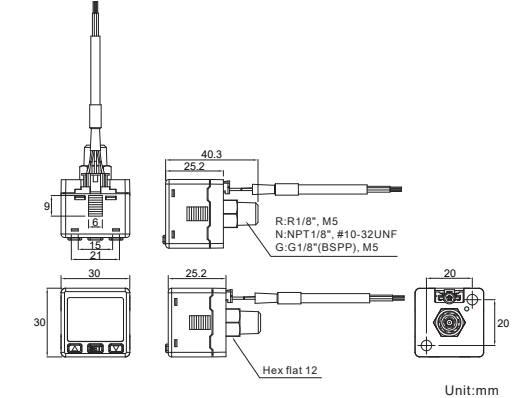


J. PRESSURE SETTING MODE

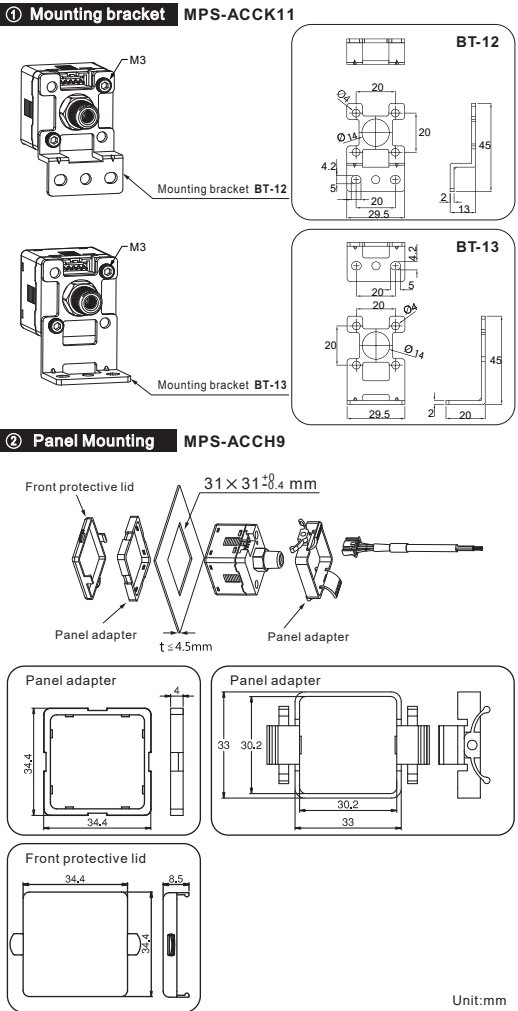


【NOTE :】
Do not disconnect power when the sub-display and setting value is flashing alternately; otherwise the system cannot store the values.

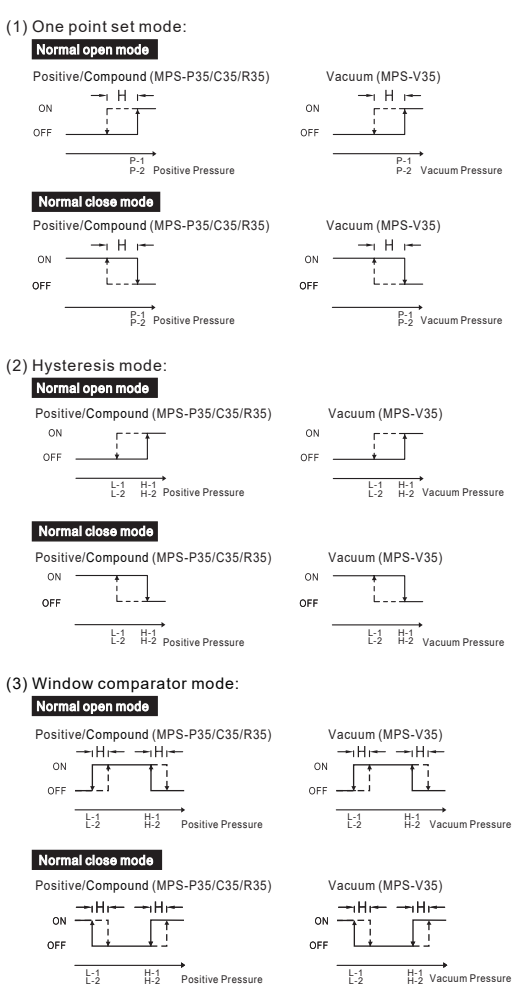
E. DIMENSIONS



F. OPTIONAL PARTS DIMENSIONS



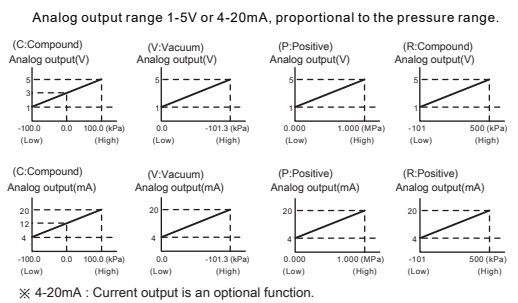
K. OUTPUT TYPE



【NOTE :】

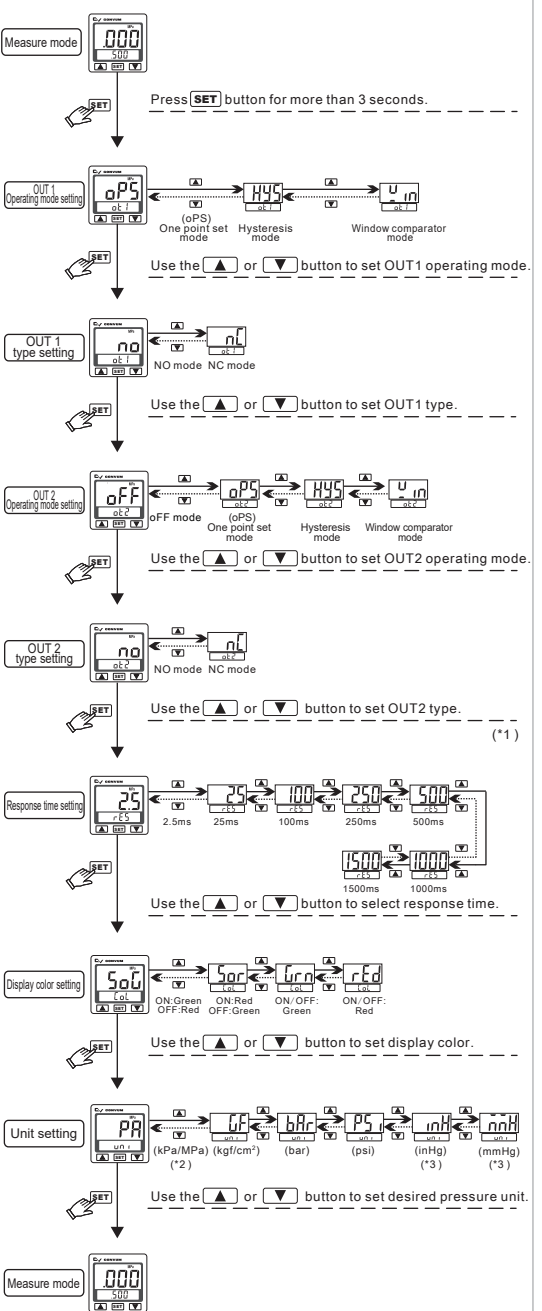
- *1. In case hysteresis is set at less than or equal to 2 digits, switch output may chatter if input pressure fluctuates near the set point.
- *2. When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch output to malfunction.

L. ANALOG OUTPUT DESCRIPTION



※ 4-20mA : Current output is an optional function.

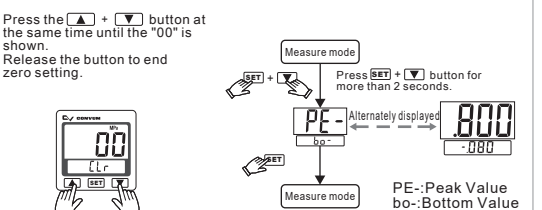
G. INITIAL SETTING MODE



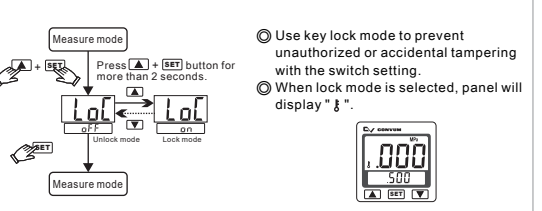
【NOTE :】

- *1. This setting mode will not display when output 2 is set to oFF.
- *2. Pressure unit is MPa with positive pressure. Pressure unit is kPa with vacuum and compound pressure.
- *3. Only applicable for MPS-V35 / MPS-C35.

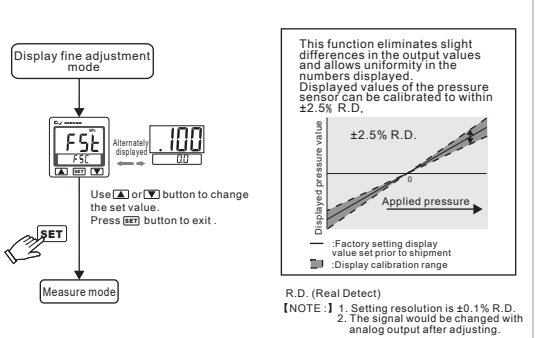
M. ZERO POINT SETTING



O. KEY LOCK/UNLOCK MODE



P. FINE ADJUSTMENT MODE



Q. ERROR CODE INSTRUCTION

Error Type	Error code	Error Condition	Troubleshooting
Excess load current error	Er 1	Output 1 load current is more than 125 mA	Turn power off and check the cause of overload current or lower the current load under 125 mA, then restart.
Residual pressure error	Er 2	Output 2 load current is more than 125 mA	
Applied pressure error	Er 3	During zero reset, input pressure is over ±3% F.S. of ambient pressure.	Change input pressure to ambient pressure and perform zero reset again.
System error	Er 4	Supply pressure is exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
	Er 5	Supply pressure is exceeds the lower limit of pressure setting.	
	Er 6	Internal system error	Turn power off, and then restart.
	Er 7	Internal data error	If error condition remains, please return to factory for inspection.

R. PRESSURE UNIT CONVERSION TABLE

From	To	Pa	kPa	MPa	kgf/cm ²	mmHg	psi	bar	inHg
1Pa		1	0.001	0.000001	0.000010197	0.00750062	0.000145038	0.00001	0.0002953
1kPa		1000.000	1	0.001000	0.010197	7.500616	0.145038	0.010000	0.2953
1MPa		1000000	1000	1	10.197	7500.616	145.038	10	29.92
1kgf/cm ²		98066.5	98.0665	0.0980665	1	735.559	14.2233	0.980665	28.9579
1mmHg		133.322	0.133322	0.0001333	0.00135959	1	0.019336	0.00133322	0.0393701
1psi		6894.76	6.89476	0.00689476	0.070307	51.7147	1	0.0689476	2.53701
1bar		100000.0	100.000	0.100000	1.01972	750.062	14.5038	1	28.5298
1inHg		3386.38	3.38638	0.003386	0.034530	25.4000	0.491141	0.0338638	1