

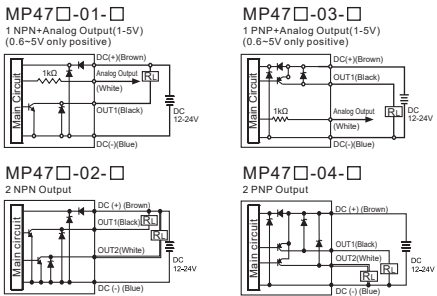
For your safety, please read the following before using.

- Do not use corrosive or flammable gas or liquid with this product.
- Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
- Do not drop, hit or allow excessive shock. Even if switch body appears undamaged, internal components may be broken and can cause malfunction.
- Turn power off before connecting wiring. Wrong wiring or short circuit will damage and / or cause malfunction.
- Do not use in environment containing steam or oil vapor.
- This product is not explosion-proof rated. Do not use in atmosphere containing flammable or explosive gases.
- 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		MP47P-□-□ (Positive)	MP47V-□-□ (Vacuum)	MP47C-□-□ (Compound)
Rated pressure range		-0.100~1.000 MPa	0.0~101.3 kPa	-100.0~100.0 kPa
Setting pressure range		-0.103~1.030 MPa	10.0~103.0 kPa	-103.0~103.0 kPa
Withstand pressure		1.5 MPa		500 kPa
Fluid		Air, Non-corrosive / Non-flammable gas		
Set Pressure Resolution	kPa	—		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		≤ 30mA (With no load)		
Switch Output	Output type	open collector output (NPN or PNP)		
	Load current	Max. 80mA		
	Residual voltage	≤ 1.0V		
	Response time	≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)		
Analog Output	Output voltage	0.6 ~ 5V ±2.5% F.S. (within rated pressure range)	1 ~ 5V ±2.5% F.S. (within rated pressure range)	
	Output impedance	about 1kΩ		
	Linearity	±1% F.S.		
Display	Display	4 digital, 7 segment LCD display (Red / Green / Orange) (Sampling rate : 0.2, 0.5, 1 sec. / time)		
	Indicator accuracy	±1% F.S. ±1 digit (ambient temperature : 25 ±3℃)		
	Repeatability (Switch output)	±0.3% F.S. ±1 digit		
	Switch on Indicator	Orange Indicator 1 : OUT1 & Orange Indicator 2 : OUT2		
Environment	Enclosure	IP 40		
	Operating temp.	0 ~ 50 °C		
	Temp. characteristic	±2% F.S. of detected pressure (25℃) at temp. Range of 0~50℃		
	Ambient temp. range	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, 10Hz~150Hz~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		
Port size		F1 : R1/8"; F2 : NPT1/8"; F3 : G1/8"(BSPP); M5 : M5		
Lead wire		Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 4 cores		
Weight		Approx. 67g (with 2 meter lead wire)		

B. OUTPUT CIRCUIT WIRING DIAGRAMS



C. ORDERING INFORMATION

MP47C-01-F1

Pressure Range

C : Compound (-103.0~103.0 kPa)
V : Vacuum (10.0~103.0 kPa)
P : Positive (-0.103~1.030 MPa)

Output Specifications

01 : 1 NPN output + Analog output (1 - 5V)
02 : 2 NPN output
03 : 1 PNP output + Analog output (1 - 5V)
04 : 2 PNP output

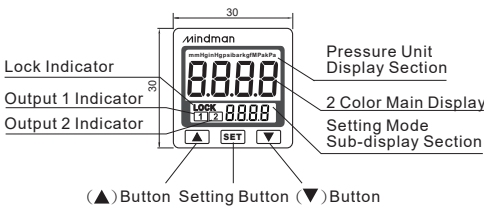
Pressure Port

F1 : R1/8", M5
F2 : NPT1/8", #10-32UNF
F3 : G1/8"(BSPP), M5
M5 : M5

Optional Parts

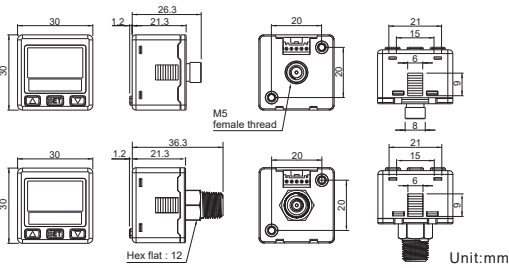
MP-A22 : Mounting bracket (BT-22)
MP-A23 : Mounting bracket (BT-23)
MP-B2 : Panel adapter (PA-C)
MP-C2 : Panel adapter + Front protective lid (PA-D)

D. PANEL DESCRIPTION



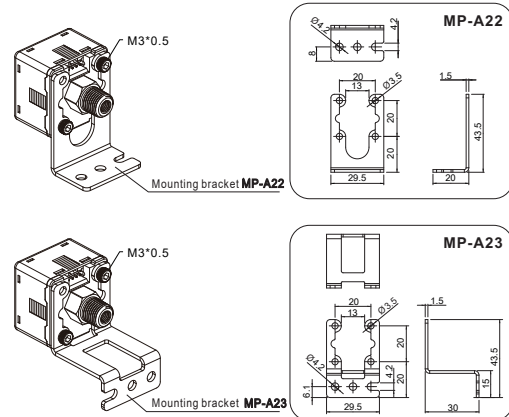
(▲)Button Setting Button (▼)Button

E. DIMENSIONS

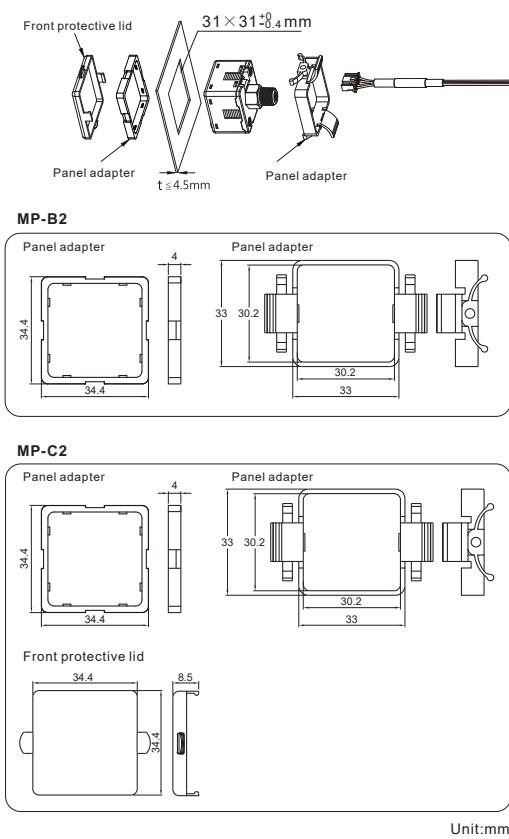


F. OPTIONAL PARTS DIMENSIONS

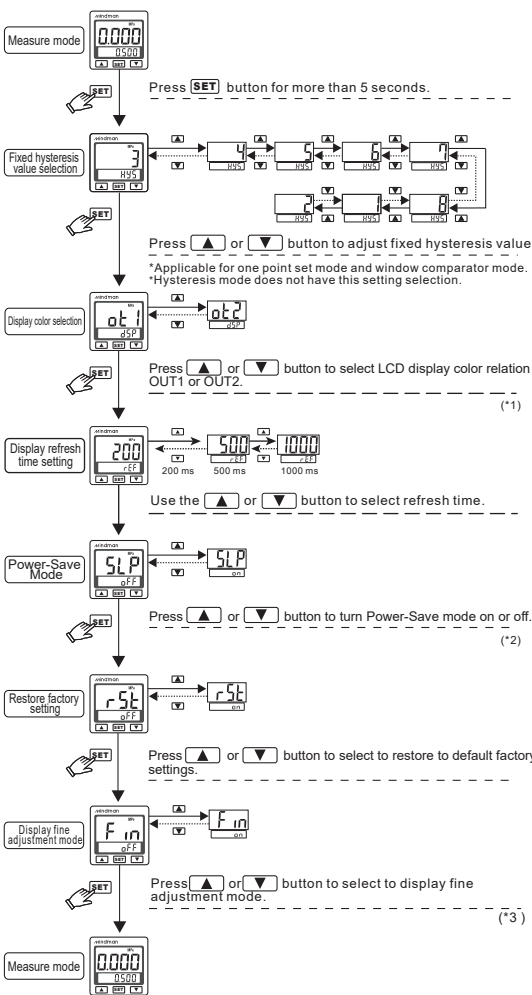
① Mounting bracket



② Panel Mounting



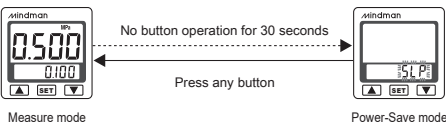
H. ADVANCE SETTING MODE



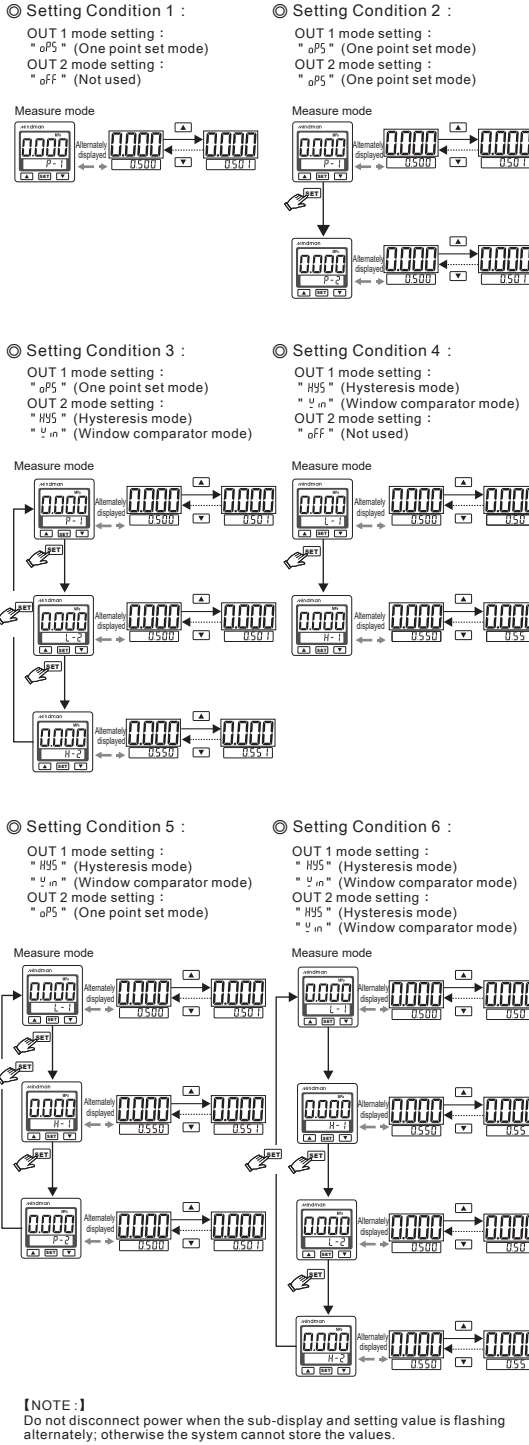
- 【NOTE :】
- This setting mode will not display OUT2 when output spec. is 1 OUT.
 - When setting is "Lo", the power-save mode is active.
Please refer to the item "POWER-SAVE MODE" in detailed.
 - When setting is "Lo", the display fine adjustment mode is active.
Please refer to the item "FINE ADJUSTMENT MODE" in detailed.

I. POWER-SAVE MODE

- During Power-Save mode, the main display will turned off if no buttons is pressed after 30 seconds.
- During Power-Save mode, the output LCD may not be synchronize with the output. It is normal and will not affect output operation.
- Press any button to turn-on main display temporarily.

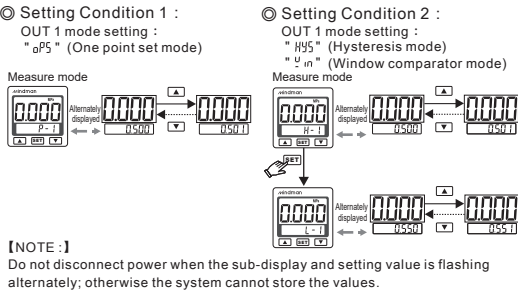


J. PRESSURE SETTING MODE (2 OUT)

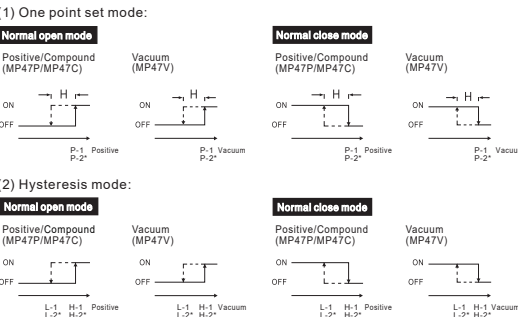


- 【NOTE :】
- Do not disconnect power when the sub-display and setting value is flashing alternately; otherwise the system cannot store the values.

K. PRESSURE SETTING MODE (1 OUT)

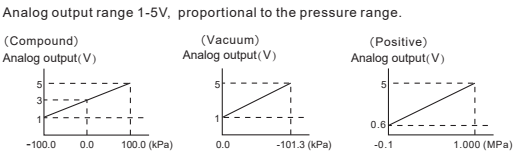


L. OUTPUT TYPE



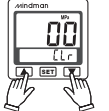
- 【NOTE :】
- Pressure setting value of P-2, L-2 or H-2 won't be shown when output spec. is 1 OUT.
 - In case hysteresis is set at less than or equal to 2 digits, switch output may chatter if input pressure fluctuates near the set point.
 - When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch output to malfunction.

M. ANALOG OUTPUT DESCRIPTION

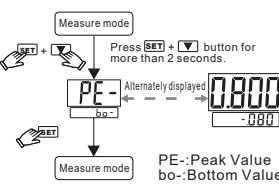


N. ZERO POINT SETTING

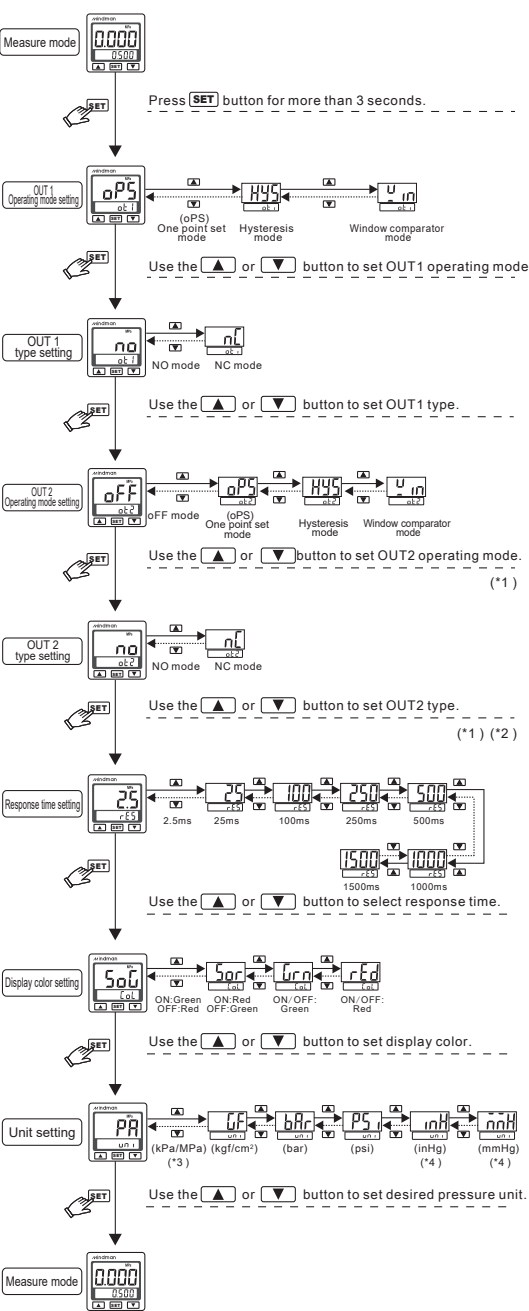
Press the (▲) + (▼) button at the same time until the "00" is shown. Release the button to end zero setting.



O. PEAK/BOTTOM HOLD FUNCTION

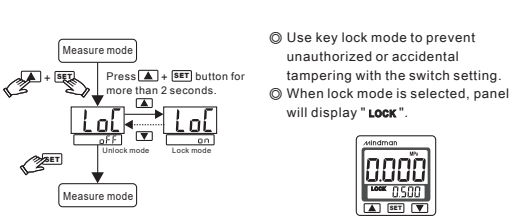


G. INITIAL SETTING MODE

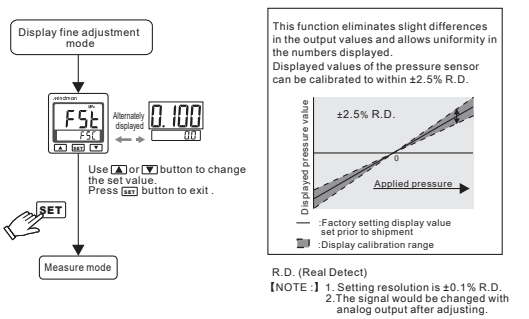


- 【NOTE :】
- This setting mode will not display when output spec. is 1 OUT.
 - This setting mode will not display when output 2 is set to off.
 - Pressure unit is MPa with vacuum and compound pressure.
Pressure unit is kPa with vacuum and compound pressure.
 - Only applicable for Vacuum/Compound.

P. KEY LOCK/UNLOCK MODE



Q. FINE ADJUSTMENT MODE



R. ERROR CODE INSTRUCTION

Error Type	Error Code	Error Condition	Troubleshooting
Excess load current error	Er1	Output 1 load current is more than 80 mA	Turn power off and check the cause of overload current or lower the current load under 80 mA, then restart.
Residual pressure error	Er2	Output 2 load current is more than 80 mA	Change input pressure to ambient pressure and perform zero reset again.
Applied pressure error	HH	Supply pressure exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
System error	Er3	Supply pressure exceeds the lower limit of pressure setting.	Adjust the pressure within operating pressure range.
	Er4	Internal system error	Turn power off, and then restart.
	Er5	Internal system error	If error condition remains, please return to factory for inspection.
	Er6	Internal data error	
	Er7	Internal data error	

S. PRESSURE UNIT CONVERSION TABLE

Pressure	P _a	kPa	MPa	kgf/cm ²	mmHg	psi	bar	inHg
1 Pa	1	0.001	0.000001	0.000010197	0.00750062	0.000145038	0.00001	0.0002953
1 kPa	1000.000	1	0.001000	0.010197	7.500616	0.145038	0.010000	0.2953
1 MPa	1000000	1000	1	10.197	7500.616	145.038	10	295.3985
1 kgf/cm ²	98066.5	98.0665	0.0980665	1	735.559	14.2233	0.980665	29.9271
1 mmHg	133.32	0.13332	0.00013332	0.00135951	1	0.0193368	0.0013332	0.0393701
1 psi	6895	6.895	0.006895	0.07031	51.7157	1	0.06895	2.036024
1 bar	100000.0	100.000	0.100000	1.01972	750.062	14.5038	1	29.5298
1 mmHg	3386.388	3.386388	0.003386388	0.034530	25.40000	0.491141	0.0338638	1

T. China RoHS

Part Name	Pb	Hg	Cd	Cr VI	PBB	PBDE
Metal Part	X	O	O	O	O	O
Plastic Part	O	O	O	O	O	O
Electronic	X	O	O	O	O	O
Cable & Cabling accessories	O	O	O	O	O	O

This table is made according to SJ/T 11364.
O: Indicates that the concentration of hazardous substance in all of the homogeneous materials for this part is below the limit as stipulated in GB/T 26572.
X: Indicates that concentration of hazardous substance in at least one of the homogeneous materials used for this part is above the limit as stipulated in GB/T 26572.