

For your safety, please read the following before using.

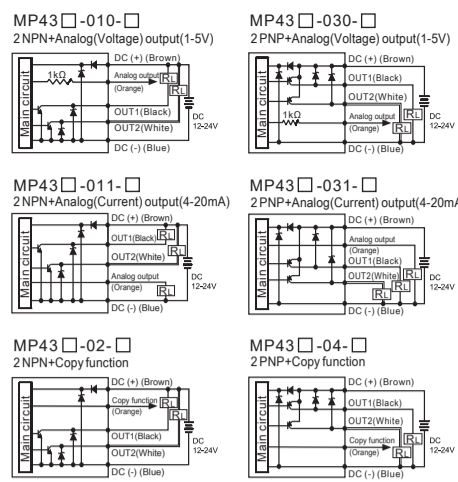
- Do not use corrosive or flammable gas or liquid with this product.
- Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
- Do not drop, hit or allow excessive shock. Even if switch body 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	MP43P-□-□ (Positive)	MP43V-□-□ (Vacuum)	MP43C-□-□ (Compound)
Rated pressure range	0.000~1.000MPa	0.0~101.3kPa	-100.0~100.0kPa
Setting pressure range	-0.100~1.000MPa	10.0~101.3kPa	-101.0~101.0kPa
Withstand pressure	1.5MPa	300kPa	
Fluid	Filtered 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
	mmHg	—	0.1
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	Adjustable (*1)		
	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 1/2 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		
Enclosure	IP40		
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)		
Environment	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: 100ms (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	F1: R1/8", M5, F2: NPT1/8", #10-32UNF, F3: G1/8"(BSPP), M5		
Lead wire	Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm 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.

B. OUTPUT CIRCUIT WIRING DIAGRAMS



C. ORDERING INFORMATION

MP43C-010-F1

Pressure Range
C : Compound (-101.0~101.0kPa)
V : Vacuum (10.0~101.3kPa)
P : Positive (-0.100~1.000MPa)

Output Specifications
010 : 2 NPN+Analog (Voltage) output (1 - 5V)
011 : 2 NPN+Analog (Current) output (4 - 20mA)
02 : 2 NPN+Copy function
030 : 2 PNP+Analog (Voltage) output (1 - 5V)
031 : 2 PNP+Analog (Current) output (4 - 20mA)
04 : 2 PNP+Copy function

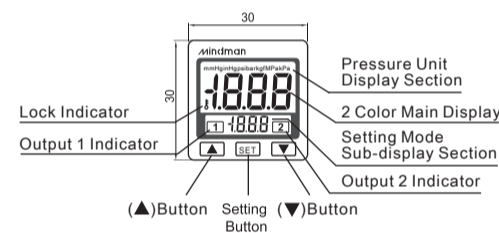
Pressure Port

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

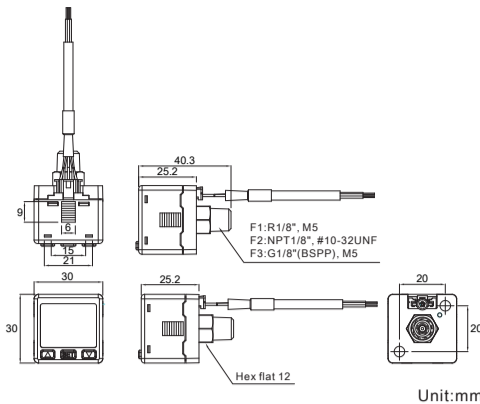
Optional Parts

MP-A12 : Mounting bracket (BT-12)
MP-A13 : Mounting bracket (BT-13)
MP-B2 : Panel adapter (PA-C)
MP-C2 : Panel adapter + Front protective lid (PA-D)

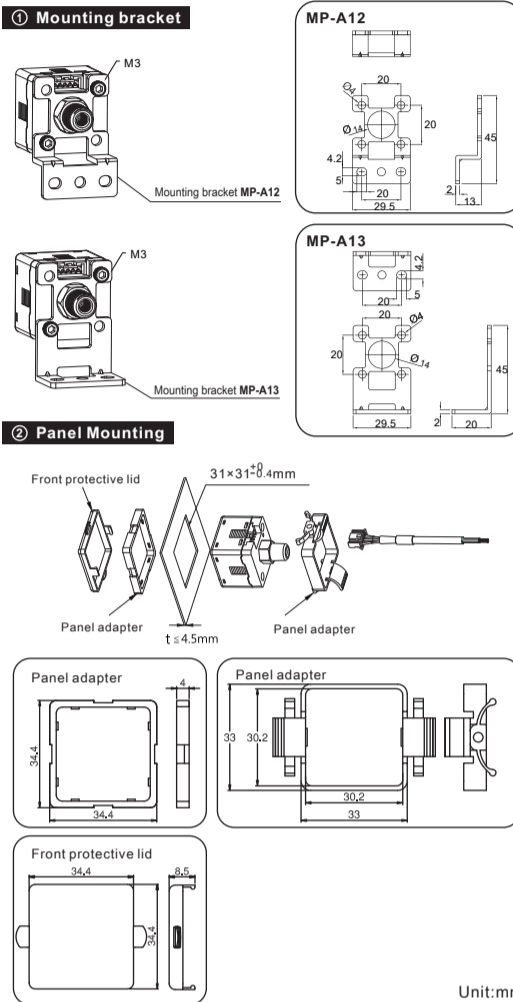
D. PANEL DESCRIPTION



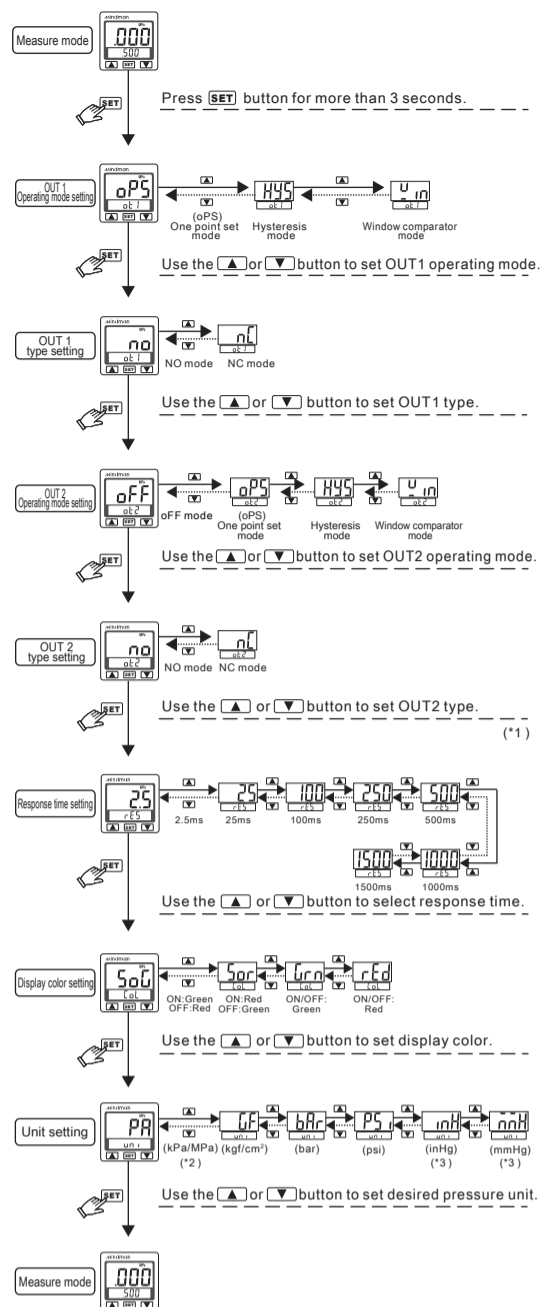
E. DIMENSIONS



F. OPTIONAL PARTS DIMENSIONS

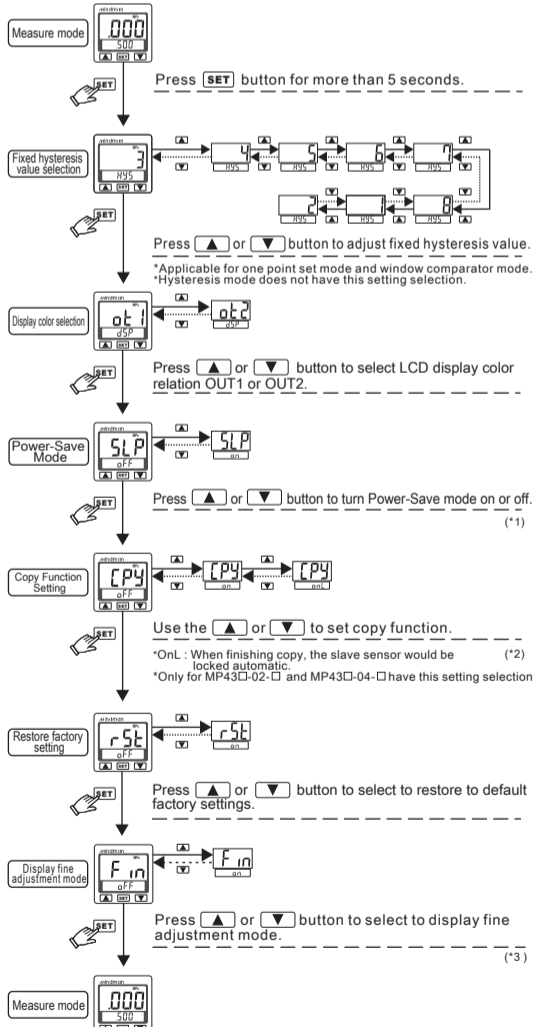


G. INITIAL SETTING MODE



[NOTE:]
*1. This setting mode will not display when output 2 is set to OFF.
*2. Pressure unit is MPa with positive pressure.
*3. Only applicable for Vacuum/Compound.

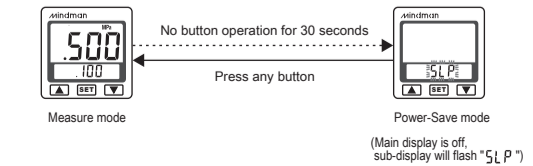
H. ADVANCE SETTING MODE



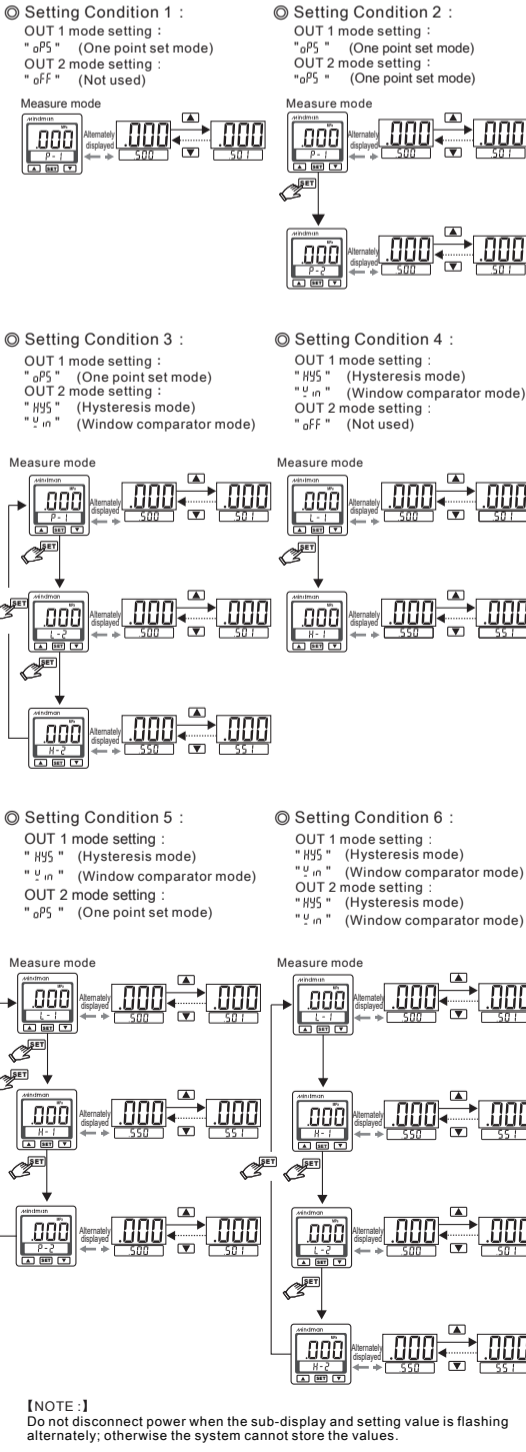
[NOTE:]
*1. When setting is "5LP", the power-save mode is active. Please refer to the item "5LP" in detailed.
*2. When setting is "CP" or "CP", the display copy function mode is active. Please refer to the item "CP" in detailed.
*3. When setting is "FAD", the display fine adjustment mode is active. Please refer to the item "FAD" in detailed.

I. POWER-SAVE MODE

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

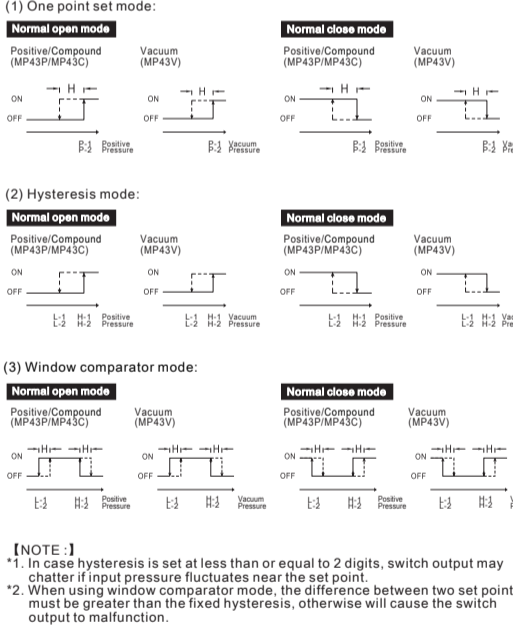


J. PRESSURE SETTING MODE

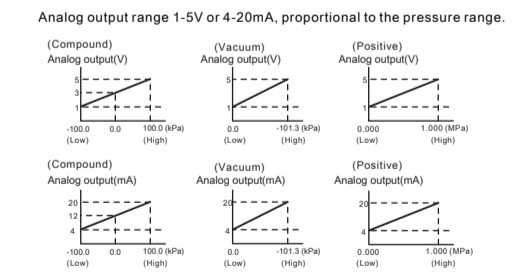


[NOTE:]
Do not disconnect power when the sub-display and setting value is flashing alternately, otherwise the system cannot store the values.

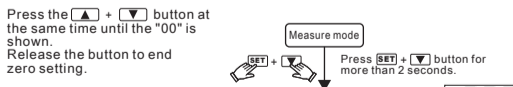
K. OUTPUT TYPE



L. ANALOG OUTPUT DESCRIPTION

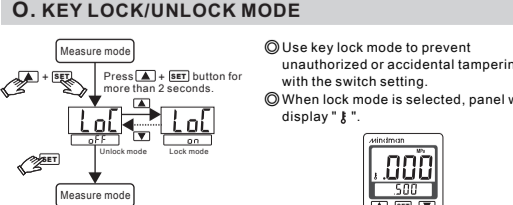


M. ZERO POINT SETTING

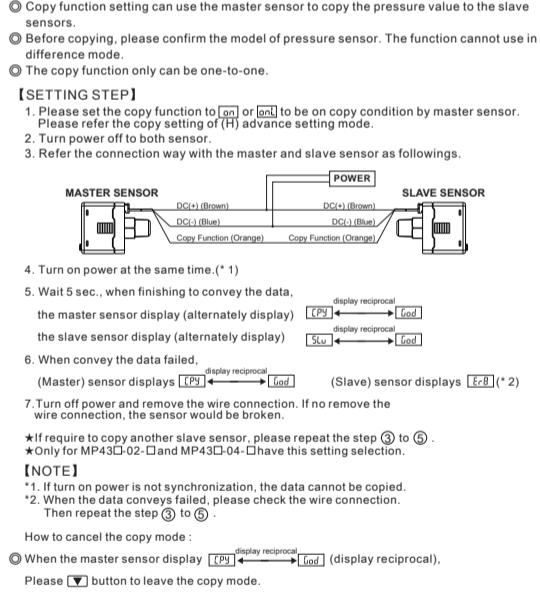


Press the [▲] + [▼] button at the same time until the "00" is shown. Release the button to end zero setting.

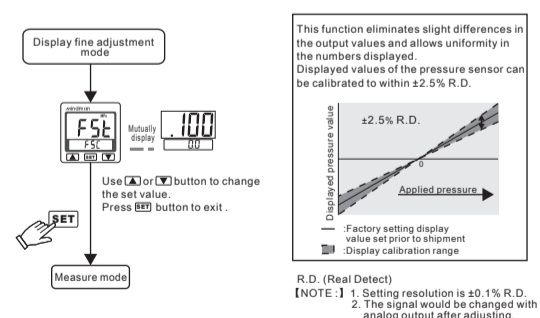
O. KEY LOCK/UNLOCK MODE



P. COPY FUNCTION SETTING



Q. FINE ADJUSTMENT MODE



R. 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	Change input pressure to ambient pressure and perform zero reset again.
Applied pressure error	WHH	Supply pressure is exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
	LLL	Supply pressure is exceeds the lower limit of pressure setting.	
System error	Er 4	Internal system error	Turn power off, and then restart.
	Er 5	Internal data error	If error condition remains, please return to factory for inspection.
	Er 7	Internal data error	
Copy date error	Er 8	Please check the model no. and wire connection. Restart to turn on power if no return to normal condition, please return to factory for inspection.	

S. PRESSURE UNIT CONVERSION TABLE

MPa	kPa	MPa	kgf/cm ²	mmHg	psi	bar	inHg
1 MPa	1000.000	10.0001	0.101325	7500.616	145.038	10	29.9213
1 kPa	1.00000	0.010001	0.0101325	7.500616	0.145038	0.100000	0.299213
1 MPa	1000000	1000	10.197	7500.616	145.038	10	29.9213
1 kgf/cm ²	98.0665	0.980665	1	735.559	14.2233	0.980665	28.9529
1 mmHg	133.322	0.00133322	0.0131579	1	0.0193335	0.00133322	0.0393701
1 psi	68.9476	0.689476	0.689476	51.7149	1	0.689476	2.033057
1 bar	100.0000	1.00000	1.01972	750.062	14.5038	1	29.9213
1 inHg	3386.388	3.386388	0.0345303	25.40000	0.491141	0.0338638	1