

For your safety, please read the following before using.

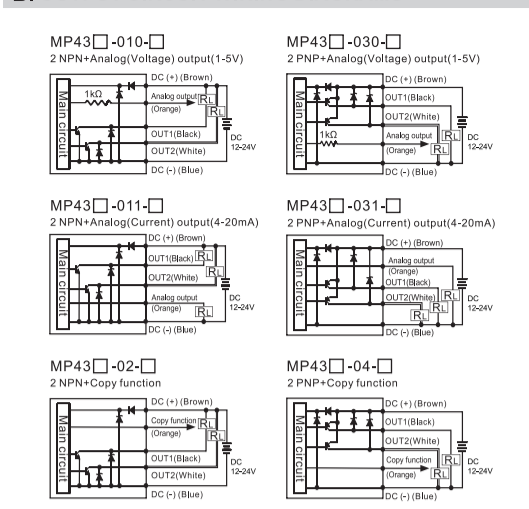
- Do not use corrosive or flammable gas or liquid with this product.
- Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
- Do not drop, hit or allow excessive shock. Even if switch body 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
	inHg	—	—
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)	
	Window comparator mode	Yes	
Response time	≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)		
Output short circuit protection	Yes		
7 segment LCD display	Two color(Red/Green) main & unit display. Orange sub-display (Sampling rate: 5 times/1sec.)		
Indicator accuracy	±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Switch ON Indicator	Orange (1 & 2 Indicator) OUT1 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		
	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		
Analog output (Current Output) *3	Endure		
	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		
Temperature characteristic	1000V AC in 1-min (between case and lead wire)		
	50MΩ (at 500V DC, between case and lead wire)		
	Insulation resistance		
	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z		
Vibration	Shock		
	100ms 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	F1: R1/8", M5; F2: NPT1/8", #10-32UNF; F3: G1/8"(BSPP), M5		
Lead wire	Oil-resistance cable(0.15mm ²)		
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

M P 4 3 C - 0 1 0 - F 1

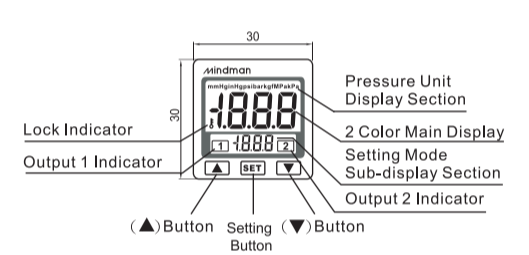
Pressure Range
C : Compound (-101.0~101.0kPa)
V : Vacuum (10.0~101.3kPa)
P : Positive (-0.100~1.000MPa)

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

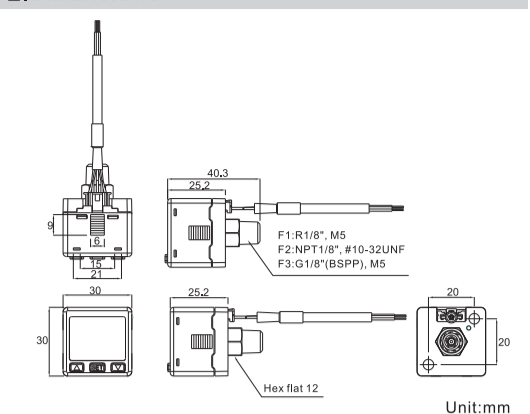
Pressure Port
F1 : R1/8", M5
F2 : NPT1/8", #10-32UNF
F3 : G1/8"(BSPP), M5

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)

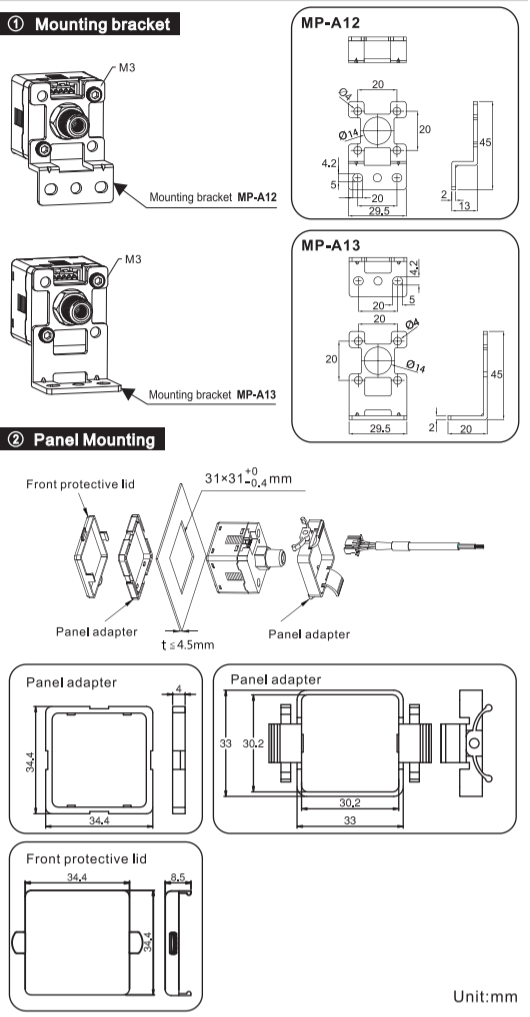
D. PANEL DESCRIPTION



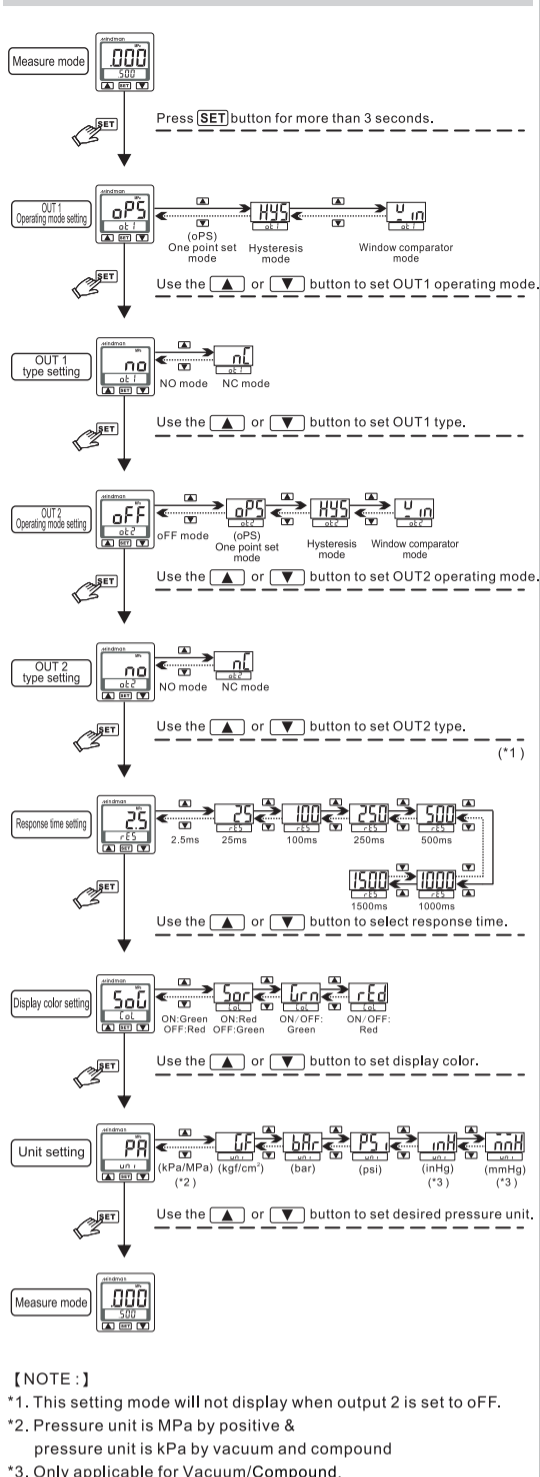
E. DIMENSIONS



F. OPTIONAL PARTS DIMENSIONS

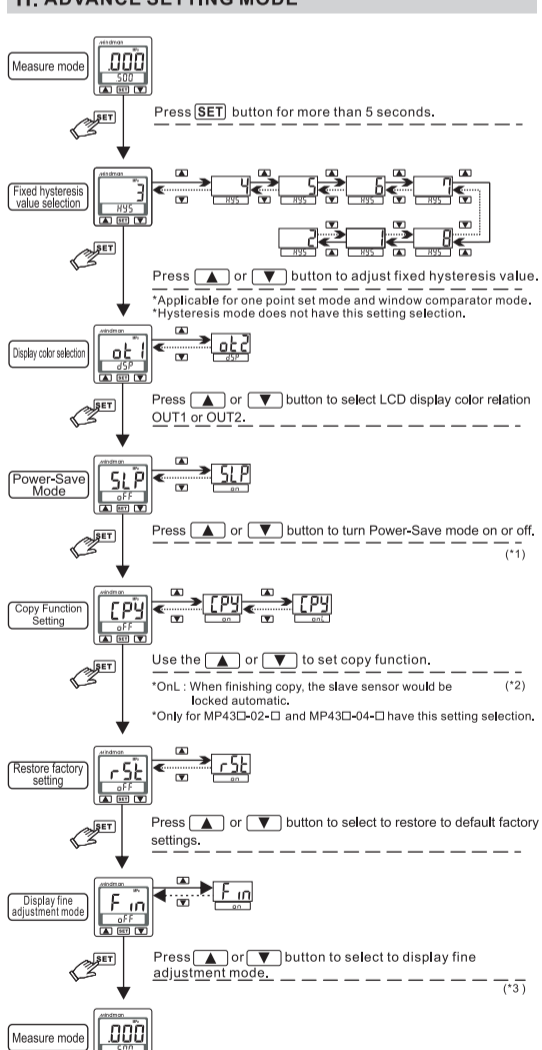


G. INITIAL SETTING MODE



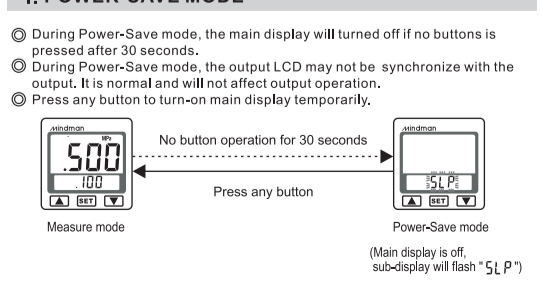
[NOTE:]
*1. This setting mode will not display when output 2 is set to OFF.
*2. Pressure unit is MPa by positive & pressure unit is kPa by vacuum and compound
*3. Only applicable for Vacuum/Compound.

H. ADVANCE SETTING MODE

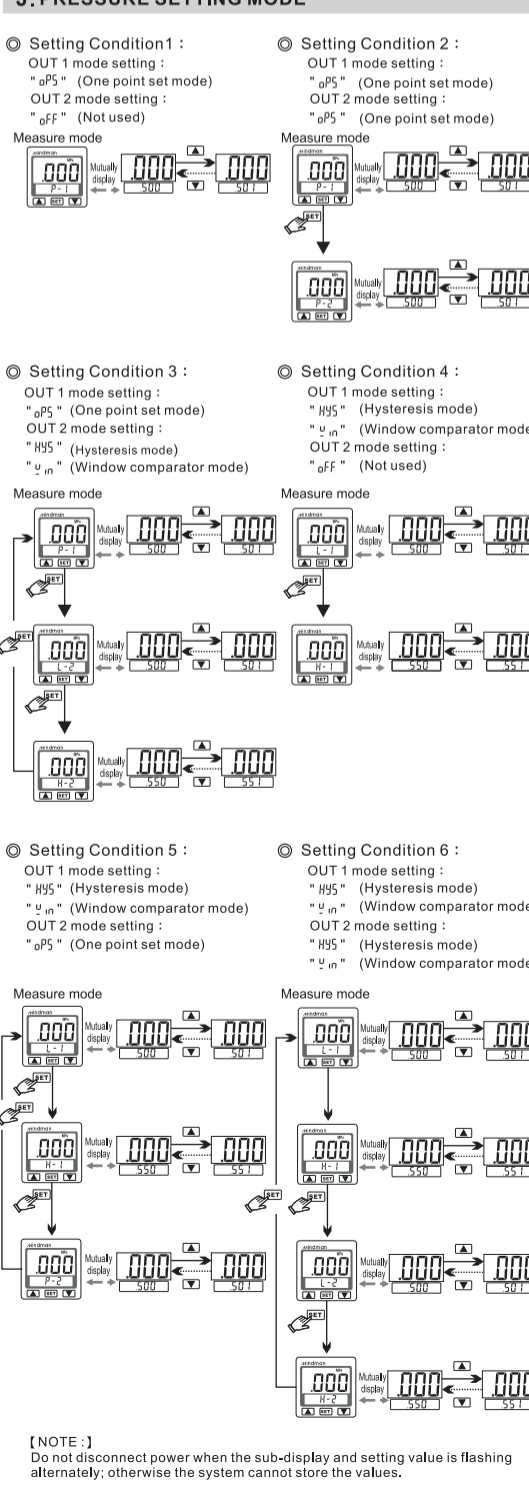


[NOTE:]
*1. When setting is "ON", the power-save mode would be started. Please refer the item "P" in detailed.
*2. When setting "ON" or "OFF", the display copy function mode would be started. Please refer the item "P" in detailed.
*3. When setting is "ON", the display fine adjustment mode would be started. Please refer the item "P" in detailed.

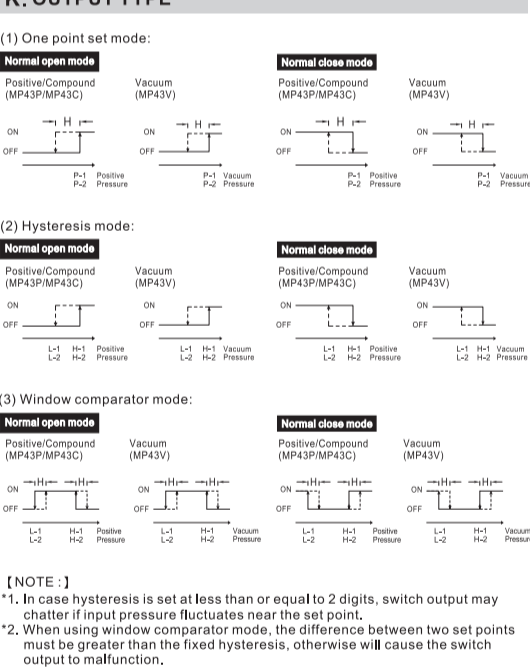
I. POWER-SAVE MODE



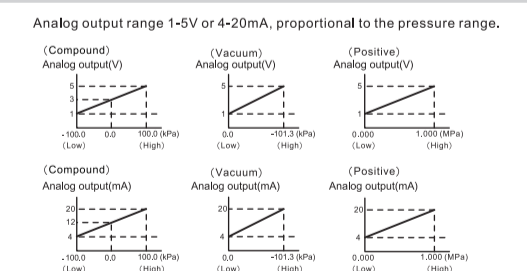
J. PRESSURE SETTING MODE



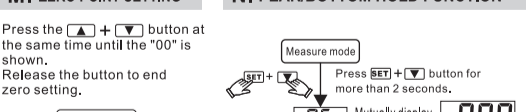
K. OUTPUT TYPE



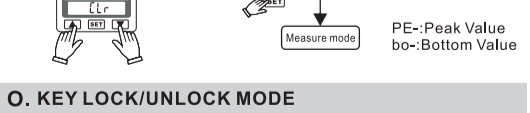
L. ANALOG OUTPUT DESCRIPTION



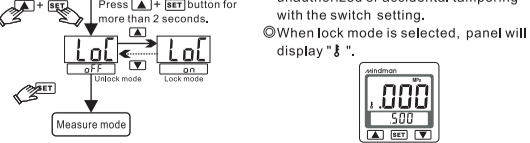
M. ZERO POINT SETTING



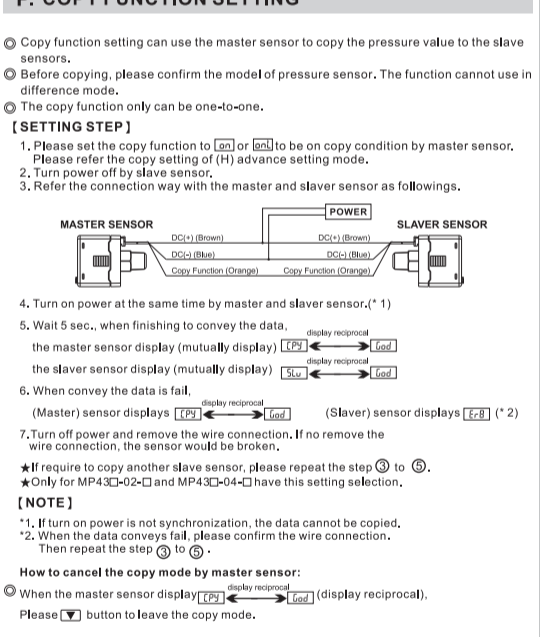
N. PEAK/BOTTOM HOLD FUNCTION



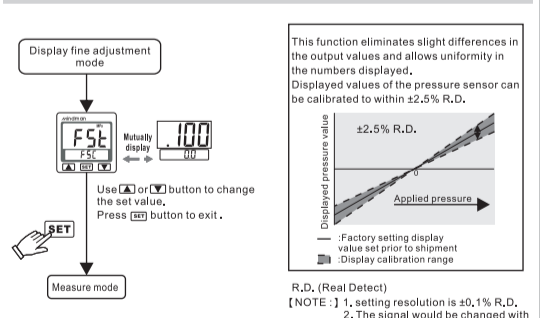
O. KEY LOCK/UNLOCK MODE



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	Turn power off and check the cause of overload current or lower the current load under 125 mA, then restart.
Applied pressure error	WHH	Supply pressure exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
System error	Err 1	Supply pressure exceeds the lower limit of pressure setting.	Adjust the pressure within operating pressure range.
	Err 4	Internal system error	Turn power off, and then restart.
	Err 5	Internal data error	If error condition remains, please return to factory for inspection.
Copy date error	Err 6	Internal data error	Turn power off, and then restart.
	Err 7	Internal data error	If error condition remains, please return to factory for inspection.

S. PRESSURE UNIT CONVERSION TABLE

MPa	Ta	Pg	kPa	MPa	kgf/cm ²	mmHg	psi	bar	inHg
1 MPa	1000.000	1	0.001	0.00010197	0.00750062	0.000145038	0.0001	0.000295291	
1 kPa	1000.000	1	0.001000	0.010197	7.500616	0.145038	0.010000	0.295291	
1 MPa	1000000	1000	1	10.197	7500.616	145.038	10	295.291	
1 kgf/cm ²	98066.5	98.0665	0.980665	0.0980665	735.559	14.2233	0.980665	28.9579	
1 mmHg	133.322	0.133322	0.00133322	0.00133322	0.0113358	0.019336	0.00133322	0.0393701	
1 psi	6895	6.895	0.0980665	0.07031	51.7157	1.11805	0.06895	2.036074	
1 bar	100000.0	100.0000	0.100000	1.01972	7500.62	14.5038	1	29.5298	
1 inHg	3386.388	3.386388	0.00338638	0.034530	25.40000	0.491141	0.0338638	1	