

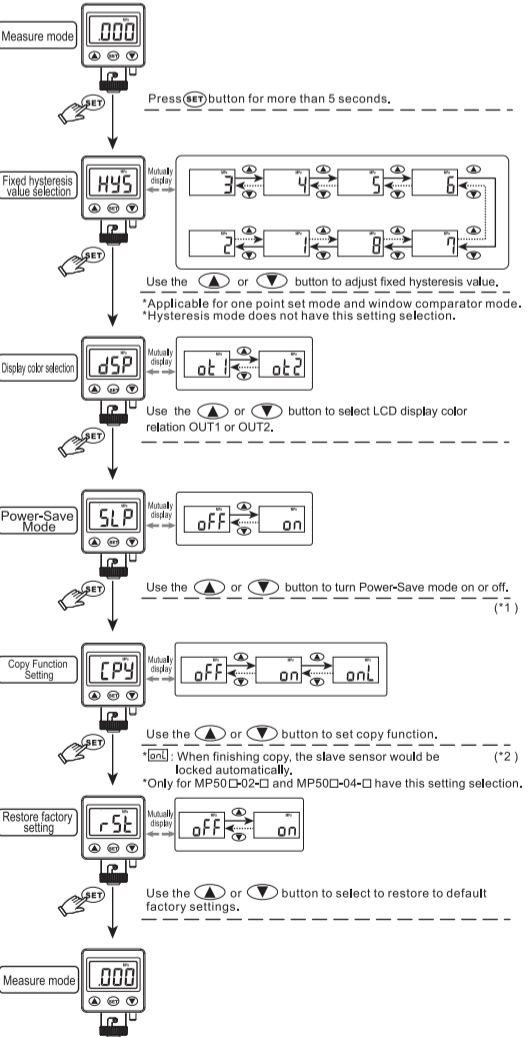
For your safety, please read the following before using.

- Do not use corrosive fluid SUS316L, please confirm the specification in detailed.
- 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.
- 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.
- The product is complied CE certificate, but no surge absorber. If required, please find other way to solve.
- Do not exceed the screw-in torque of 13.6 N.m when installing piping. Exceeding this value may cause malfunction.

A. SPECIFICATIONS

TYPE	MP50P-□ (Positive)	MP50H-□ (High)	MP50V-□ (Vacuum)	MP50C-□ (Compound)
Rated pressure range	0.000~1.000MPa	0.000~2.00MPa	0.0~-101.3kPa	-100.0~100.0kPa
Setting pressure range	-0.100~1.000MPa	-0.100~2.00MPa	10.0~-101.3kPa	-101.0~101.0kPa
Withstand pressure	3MPa		300kPa	
Fluid	Non-corrosive fluid SUS 316L			
Set pressure resolution	kPa	—	—	0.1
	MPa	0.001	0.001(-1.999) 0.01(2.00)	—
	kgf/cm ²	0.01	0.01(-19.99) 0.1(20.0)	0.001
	bar	0.01	0.01(-19.99) 0.1(20.0)	0.001
	psi	0.1	0.1(-199.9) 1(200)	0.01
inHg	—	—	—	0.1
Power supply voltage	12 to 24V DC ±10%, Ripple (P-P) 10% or less			
Current consumption	≤ 40mA (With no load)			
Switch output	Output type	2 NPN or 2 PNP open collector		
	Max. load current	125mA		
	Max. supply voltage	30V DC (at NPN output), 24V DC (at PNP output)		
	Residual voltage	≤ 1.5V		
Response time	≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)			
Output short circuit protection	Yes			
Voltage output	Voltage	1~5V (±2.5% F.S.)		
	Impedance	About 1KΩ		
	Current	4~20mA (±2.5%)		
Analog output	Current	4~20mA (±2.5%)		
	Impedance	Max. Load Impedance: 250Ω at power supply of 12V 600Ω at power supply of 24V Min. Load Impedance: 50Ω		
	Linearity	±1% F.S.		
LCD display	Display	3 1/2 digit, 7segment (red/green)		
	Switch ON Indicator	Orange (1 & 2 Indicator) OUT1 OUT2		
	Updates time	About 0.2s		
Indicator accuracy	±2% F.S., ±1 digit (ambient temperature: 25 ±3°C)			
Repeatability (Switch output)	±0.3% F.S., ±1 digit			
Environment	Enclosure	IP65		
	Operation ambient temp. range	0 ~ 50°C		
	Storage ambient temp. range	-10 ~ 60°C (No condensation or freezing)		
	Ambient humidity range	35 ~ 85% RH (No condensation)		
Withstand voltage	Withstand voltage	250V 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	±3% F.S. of detected pressure (25°C) at temp. Range of 0~50°C			
Port size	F1: R1/4", M5 F2: NPT1/4", #10-32UNF F3: G1/4" (BSPP), M5			
Lead wire	Oil-resistance cable (0.15mm ²)			
Weight (With 2 meter lead wire)	Approx. 110g (Rear ported) Approx. 145g (Bottom ported)			

H. ADVANCE SETTING MODE

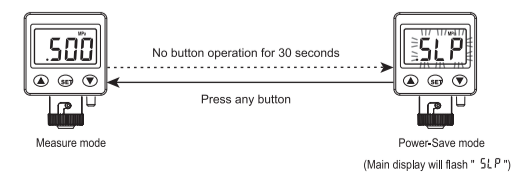


[NOTE:]

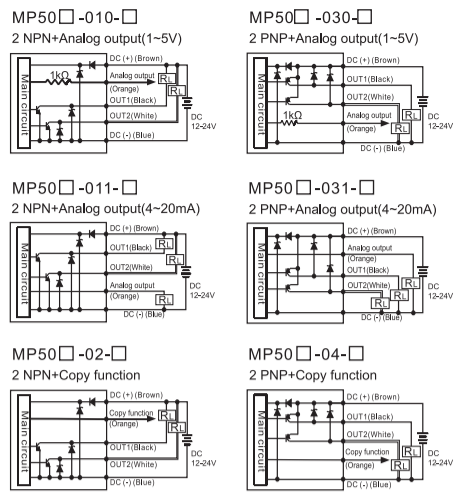
- When setting is "off", the power-save mode would be started. Please refer the item "I" in detailed.
- When setting "on" or "off", the display copy function mode would be started. Please refer the item "I" in detailed.

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.



B. OUTPUT CIRCUIT WIRING DIAGRAMS



C. ORDERING INFORMATION

MP50H-010-F1

Pressure Range

P: Positive (-0.100~1.000MPa)
H: High (-0.100~2.00MPa)
V: Vacuum (10.0~-101.3kPa)
C: Compound (-101.0~101.0kPa)

Output Specifications

010: 2 NPN+Analog output (1~5V)
011: 2 NPN+Analog output (4~20mA)
02: 2 NPN+Copy Function
030: 2 PNP+Analog output (1~5V)
031: 2 PNP+Analog output (4~20mA)
04: 2 NPN+Copy Function

Pressure Port

F1: R1/4", M5
F2: NPT1/4", #10-32UNF
F3: G1/4" (BSPP), M5

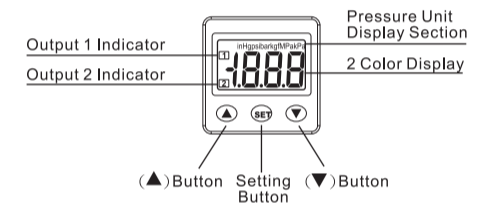
Piping Direction

Blank: Rear ported
L: Bottom ported

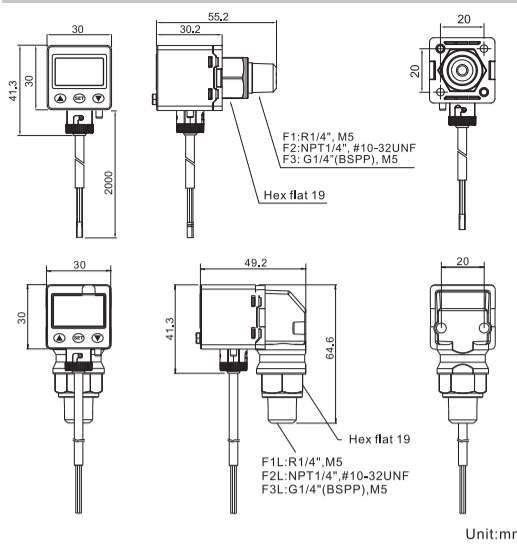
Optional Parts

MP-A10: Mounting bracket(BT-10)
MP-A11: Mounting bracket(BT-11)
MP-C3: Panel adapter(PA-E)
MP-D3: Panel adapter + Front protective lid(PA-F)

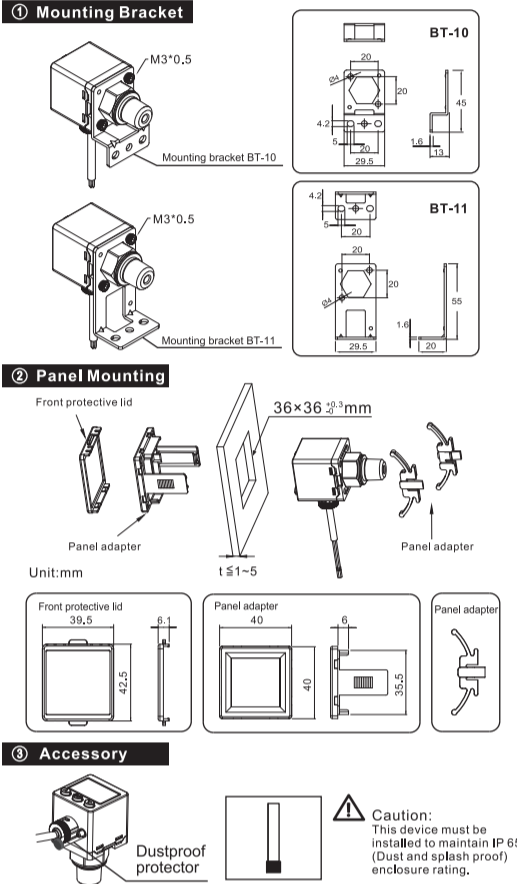
D. PANEL DESCRIPTION



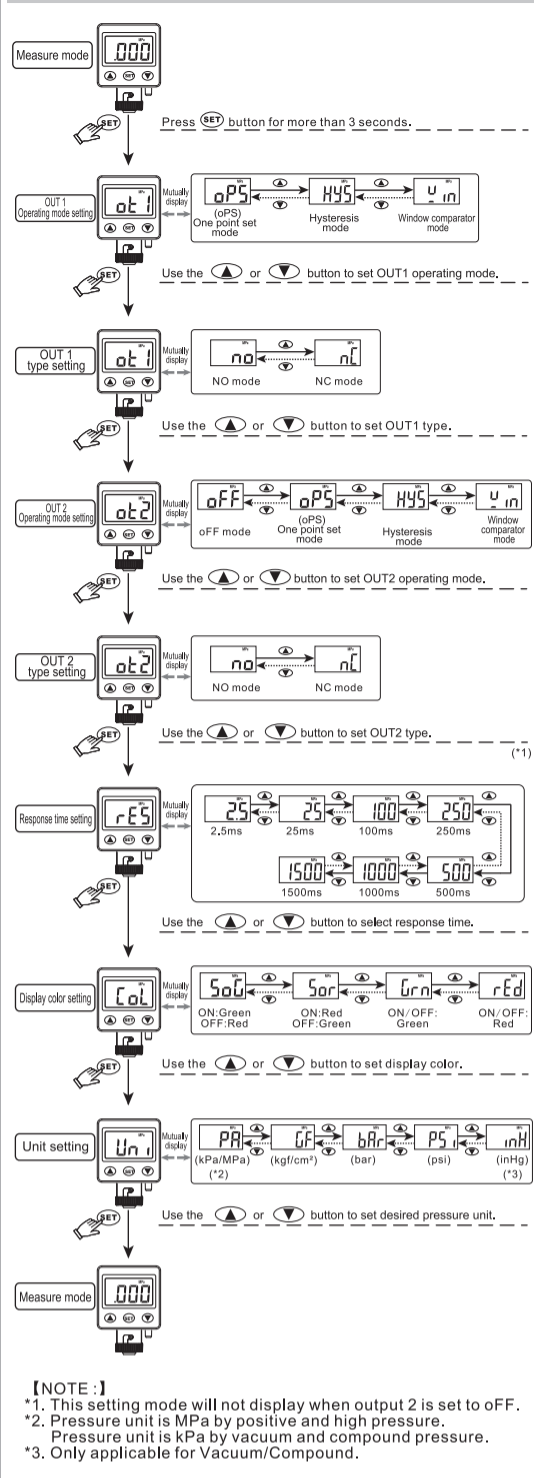
E. DIMENSIONS



F. OPTIONAL PARTS DIMENSIONS

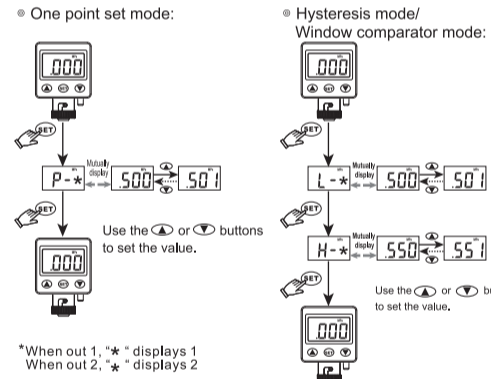


G. INITIAL SETTING MODE

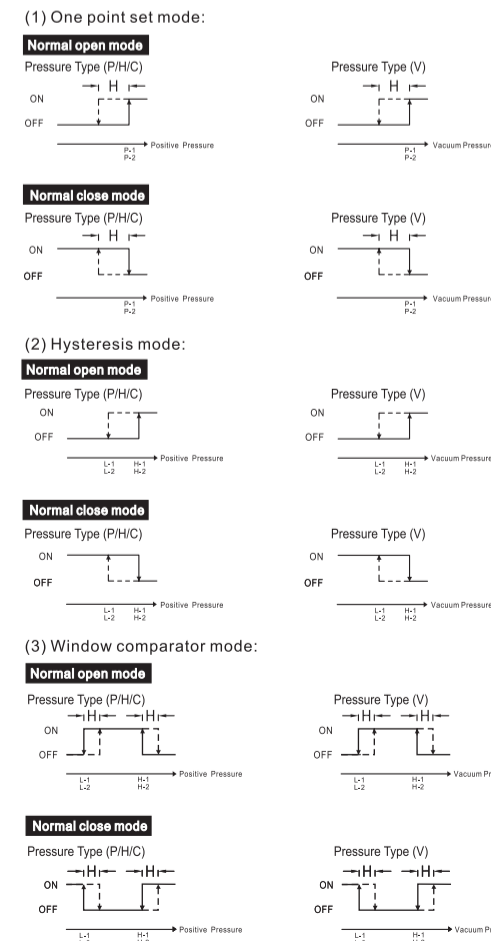


H. ADVANCE SETTING MODE

J. PRESSURE SETTING MODE



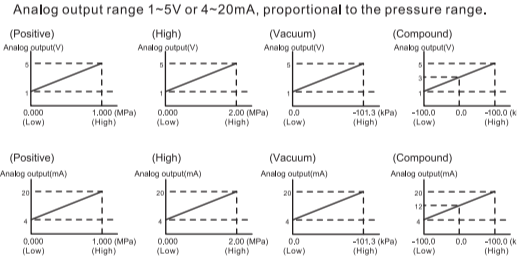
K. OUTPUT TYPE 1



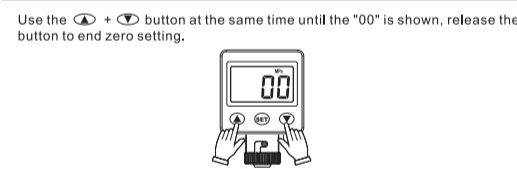
[NOTE:]

- 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.

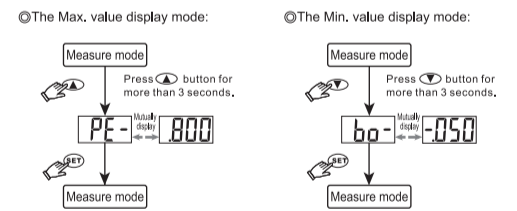
L. ANALOG OUTPUT DESCRIPTION



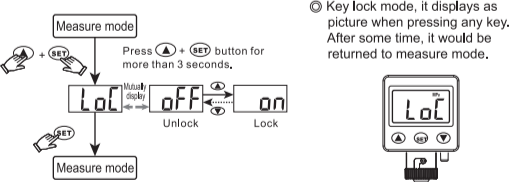
M. ZERO POINT SETTING



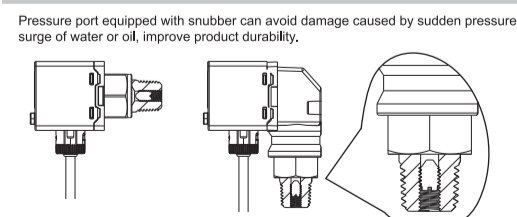
N. THE MAX. & MIN. DISPLAY MODE



O. KEY LOCK/UNLOCK MODE



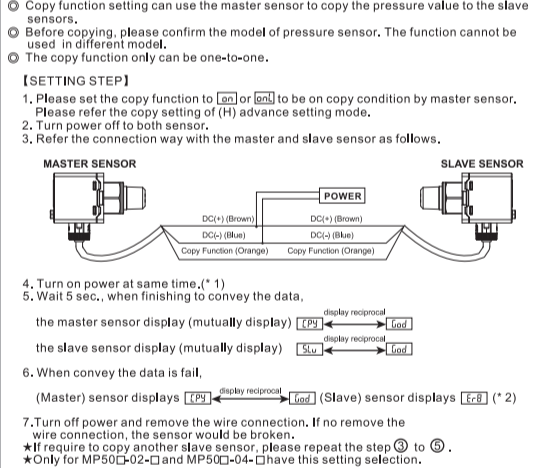
P. REMOVABLE SNUBBER INSTALLED



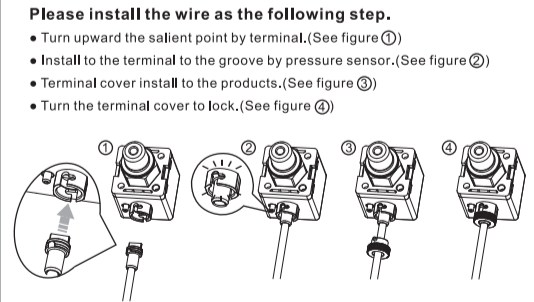
Q. PRESSURE UNIT CONVERSION TABLE

From	To	Pa	kPa	MPa	kgf/cm ²	psi	bar	inHg
1 Pa	1	0.001	0.000001	0.000000001	0.000145038	0.00001	0.00002953	
1 kPa	1000.000	1	0.001000	0.010197	0.145038	0.010000	0.2953	
1 MPa	1000000	1000	1	10.197	145.038	10	295.2998	
1 kgf/cm ²	98066.5	98.0665	0.0980665	1	14.2233	0.980665	28.9579	
1 psi	6895	6.895	0.006895	0.07031	1	0.06895	2.036074	
1 bar	100000.0	100.0000	0.100000	1.01972	14.5038	1	29.52998	
1 inHg	3386.388	3.386388	0.003386	0.034350	0.491141	0.033863	1	

R. COPY FUNCTION SETTING



S. WIRE INSTALLATION INSTRUCTION



T. ERROR CODE INSTRUCTION

Error Type	Error code	Error Condition	Troubleshooting
Excess load current error	Er1 Er2	Output 1 load current is more than 125 mA 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.
Residual pressure error	Er3	During zero reset, ambient pressure is over 23% F.S. (MP50H series is ±1.5% F.S.)	Change input pressure to ambient pressure and perform zero reset again.
Applied pressure error	HHH	Supply pressure exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
	LLL	Supply pressure exceeds the lower limit of pressure setting.	
	Er4	Internal system error	
System error	Er5	Internal system error	Turn power off, and then restart.
	Er6	Internal data error	If error condition remains, please return to factory for inspection.
Copy data error	Er7	Internal data error	
	Er8	Copy data error	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.