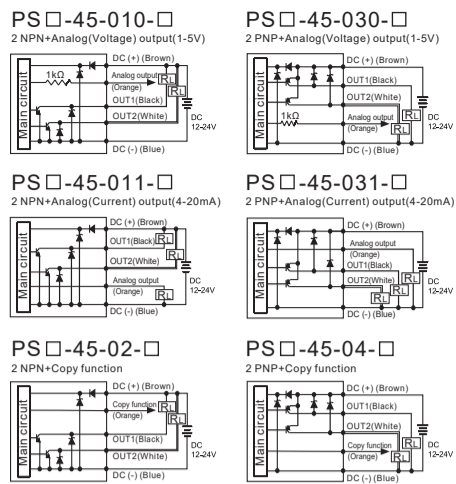


B. OUTPUT CIRCUIT WIRING DIAGRAMS



C. ORDERING INFORMATION

P S C - 4 5 - 0 1 0 - R

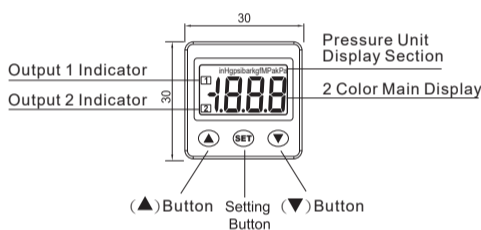
Pressure Range
 C: Compound (-101.0~101.0kPa)
 V: Vacuum (10.0~101.3kPa)
 N: Positive (-0.100~1.000MPa)

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

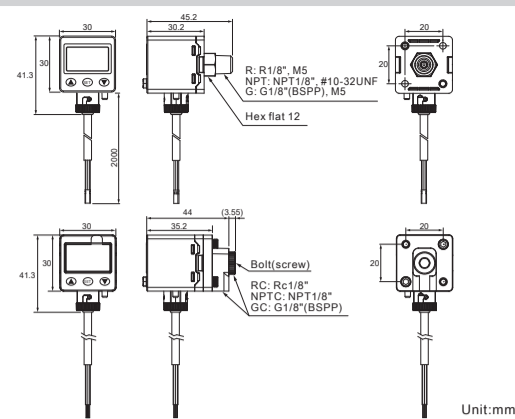
Pressure Port
 R : R1/8", M5, with external threads
 NPT : NPT1/8", #10-32UNF, with external threads
 G : G1/8"(BSP), M5, with external threads
 RC : Rc1/8", with internal threads
 NPTC : NPT1/8", with internal threads
 GC : G1/8"(BSP), with internal threads

Optional Parts
 BT-10 : Mounting bracket (for Pressure Port R, NPT, G)
 BT-11 : Mounting bracket (for Pressure Port R, NPT, G)
 BT-1 : Mounting bracket (for Pressure Port RC, NPTC, GC)
 BT-17 : Mounting bracket (for Pressure Port RC, NPTC, GC)
 PA-E : Panel adapter
 PA-F : Panel adapter + Front protective lid

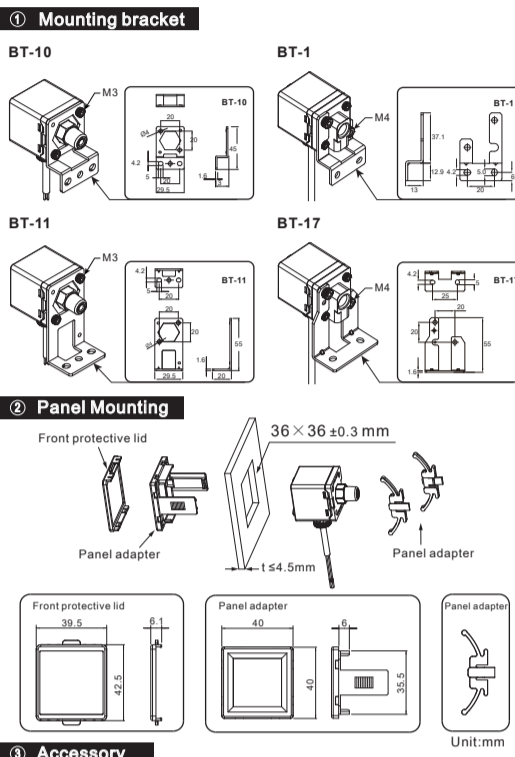
D. PANEL DESCRIPTION



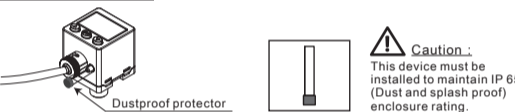
E. DIMENSIONS



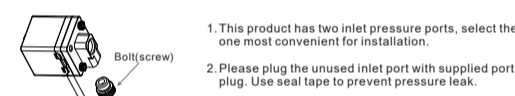
F. OPTIONAL PARTS DIMENSIONS



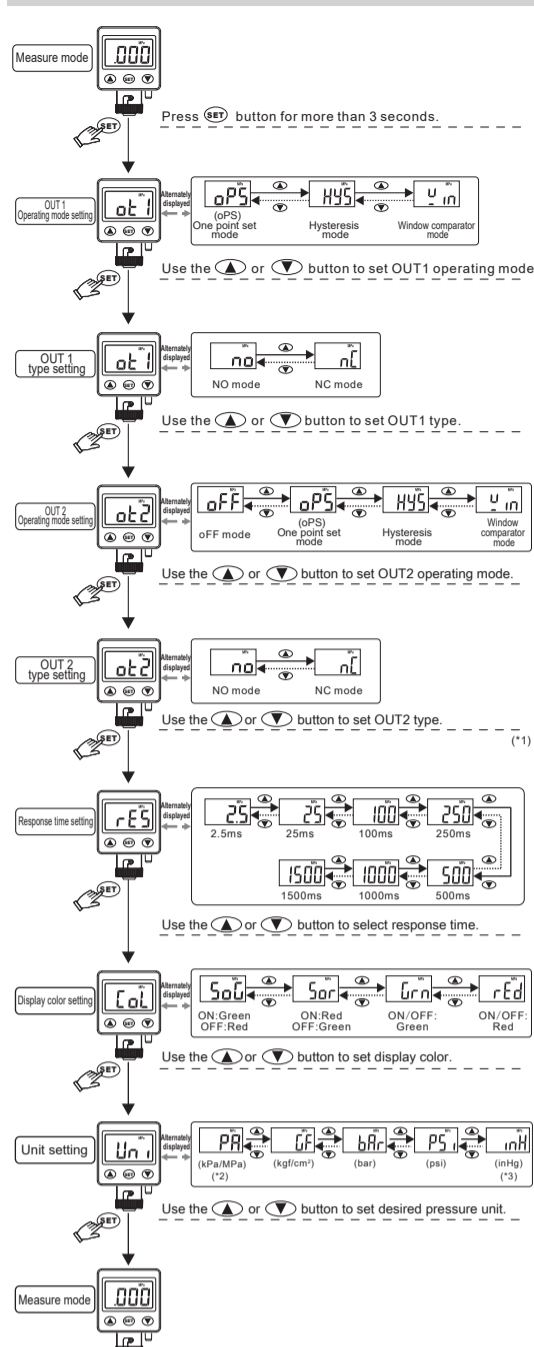
3. Accessory



4. Accessory for pressure port RC, NPTC, GC



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.

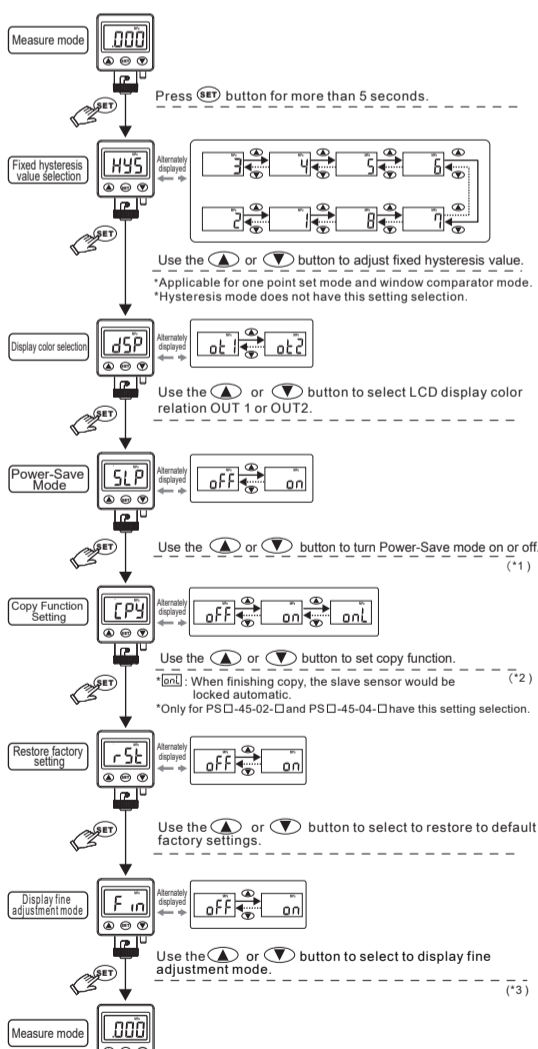
For your safety, please read the following before using.

- 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.
- For Use on a Flat Surface of a Type 1 Enclosure.

A. SPECIFICATIONS

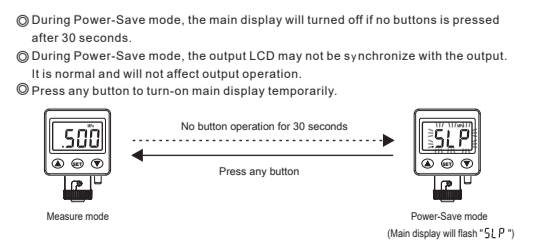
TYPE	PSN-45 (Positive)	PSV-45 (Vacuum)	PSC-45 (Compound)
Rated pressure range	0.000~1.000MPa	0.0~101.3kPa	-100.0~100.0kPa
Set pressure range	-0.100~1.000MPa	10.0~101.3kPa	-101.0~101.0kPa
Withstand pressure	1.5MPa	300kPa	
Fluid	Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	—	0.1
	MPa	0.001	—
	kgf/cm ²	0.01	0.001
	bar	0.01	0.001
	psi	0.1	0.01
	inHg	—	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	125 mA	
	Max. supply voltage	30V DC (at NPN output), 24V DC (at PNP output)	
	Residual voltage	≤1.5V	
Response time	≤2.5 ms	(chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selections)	
	Output short circuit protection	Yes	
Voltage output	Voltage	1~5V (±2.5%)	
	Impedance	Max. Load Impedance: 2500 at power supply of 12V 600Ω at power supply of 24V Min. Load Impedance: 50Ω	
Current output	Current	4~20mA (±2.5%)	
	Impedance	Max. Load Impedance: 2500 at power supply of 12V 600Ω at power supply of 24V Min. Load Impedance: 50Ω	
Linearity	±1% F.S.		
LCD display	3 1/2 digital, 7 segment LCD display (Red / Green / Orange) (Sampling rate : 5 times / sec.)		
Display	Switch on indicator	Orange Indicator 1 : OUT1 & Orange Indicator 2 : OUT2	
	Updates time	About 0.2s	
	Indicator accuracy	±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)	
Repeatability (Switch output)	±0.2% F.S. ±1 digit		
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)	
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	100m/s ² (10G), 3 times each in direction of X, Y and Z		
Temperature characteristic	±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size	R:R1/8", M5, NPT: NPT1/8", #10-32UNF, G: G1/8"(BSP), M5 RC: Rc1/8", NPTC: NPT1/8", GC: G1/8"(BSP)		
Lead wire	Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 5 cores		
Weight	Port R, NPT, G approx. 86g ; Port RC, NPTC, GC approx. 114g (each including 2 meter lead wire)		

H. ADVANCE SETTING MODE

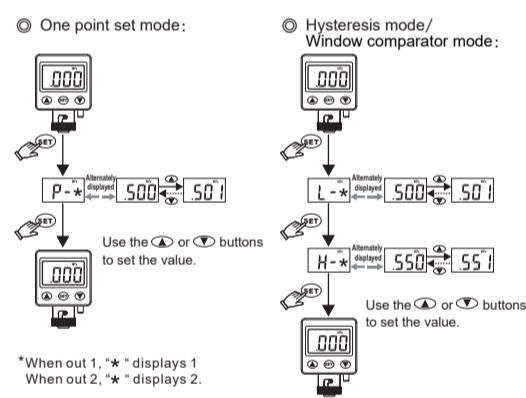


[NOTE :]
 *1. When setting is "on", the power-save mode is active. Please refer to the item "I" in detailed.
 *2. When setting "on" or "onL", the display copy function mode is active. Please refer to the item "R" in detailed.
 *3. When setting is "on", the display fine adjustment mode is active. Please refer to the item "G" in detailed.

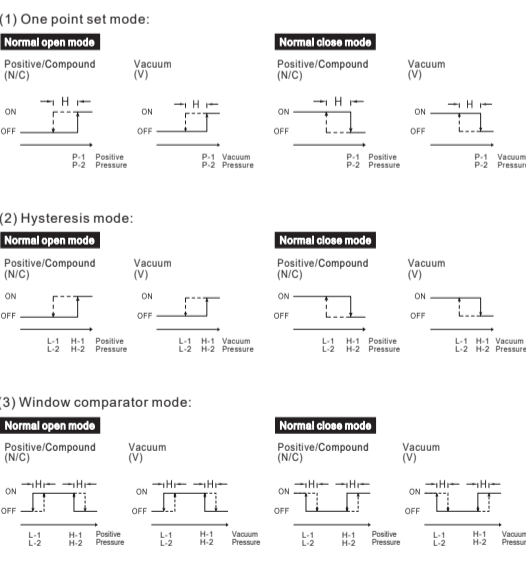
I. POWER-SAVE MODE



J. PRESSURE SETTING MODE

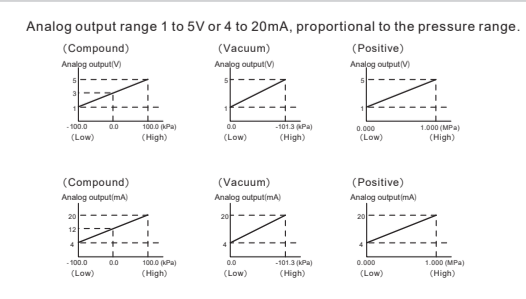


K. OUTPUT TYPE

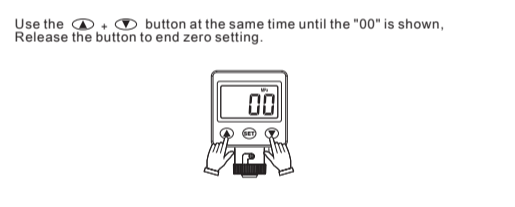


[NOTE :]
 *1. In case hysteresis is set at less than or equal to 2 digits, switch output may chatter if input pressure fluctuates near the set point.
 *2. When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch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

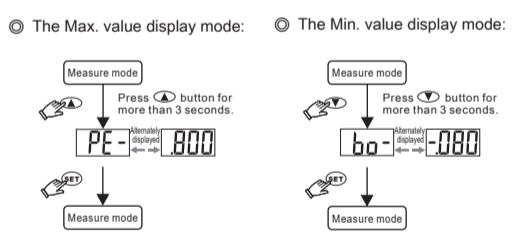
L. ANALOG OUTPUT DESCRIPTION



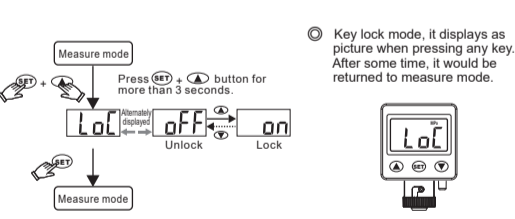
M. ZERO POINT SETTING



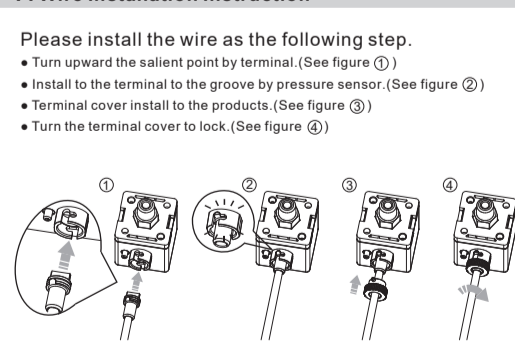
N. THE MAX. & MIN. DISPLAY MODE



O. KEY LOCK/UNLOCK MODE



P. WIRE INSTALLATION INSTRUCTION

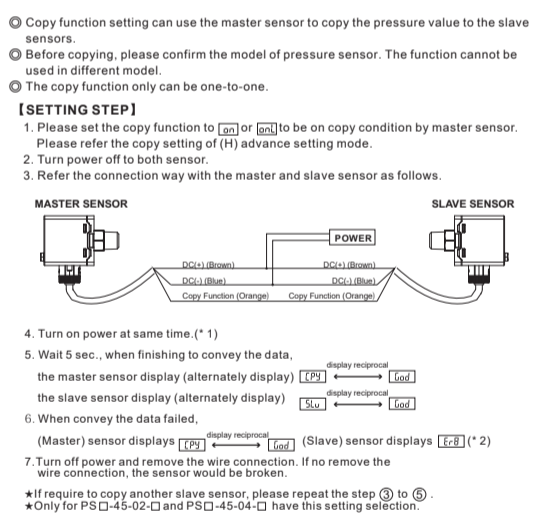


[NOTE :] Recommend not insert-extract over 20 times.

Q. PRESSURE UNIT CONVERSION TABLE

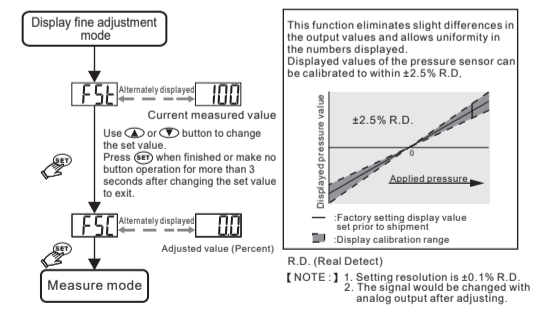
From	To	Pa	kPa	MPa	kgf/cm ²	psi	bar	inHg
1 Pa	1	0.001	0.000001	0.000000001	0.000010197	0.000145038	0.00001	0.0002953
1 kPa	1000	0.001	0.001000	0.001000000	0.010197	0.145038	0.010000	0.2953
1 MPa	1000000	1	1.0	1.0	10.197	145.038	10	295.298
1 kgf/cm ²	98066.5	98.0665	0.0980665	1	14.2233	0.980665	0.980665	29.5298
1 psi	6895	6.895	0.006895	0.07031	1	0.06895	0.06895	2.036024
1 bar	100000	100.000	0.100000	1.01972	14.5038	1	1	29.5298
1 inHg	3386.388	3.386388	0.003386	0.034530	0.491141	0.033863	0.033863	1

R. COPY FUNCTION SETTING



[NOTE :]
 *1. If turn on power is not synchronization, the data cannot be copied.
 *2. When the data conveys failed, please check the wire connection. Then repeat the step ③ to ⑤.
 *3. How to cancel the copy mode : When the master sensor display (CPY) (display reciprocal), Press ▼ button to leave the copy mode.

S. FINE ADJUSTMENT MODE



[NOTE :] 1. Setting resolution is ±0.1% R.D. 2. The signal would be changed with analog output after adjusting.

T. ERROR CODE INSTRUCTION

Error Type	Error Code	Error Condition	Troubleshooting
Excess load current error	Er1	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	Er2	Output 2 load current is more than 125 mA	Change input pressure to ambient pressure and perform zero reset again.
Applied pressure error	Err	Supply pressure exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
	LHL	Supply pressure exceeds the lower limit of pressure setting.	Adjust the pressure within operating pressure range.
System error	Er-N	Internal system error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
	Er-S	Internal system error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
	Er-G	Internal data error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
Copy data error	Er-B	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.



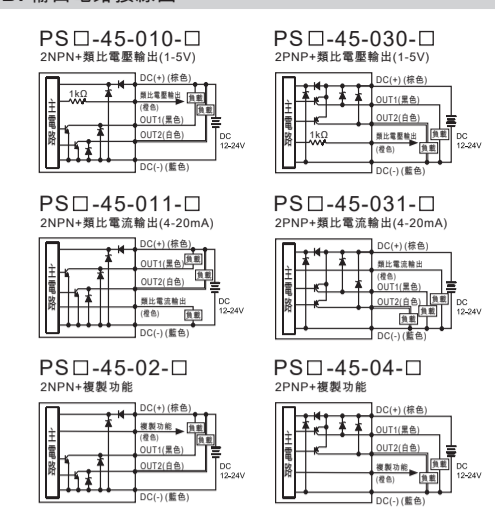
A. 規格表

使用本產品應注意事項：

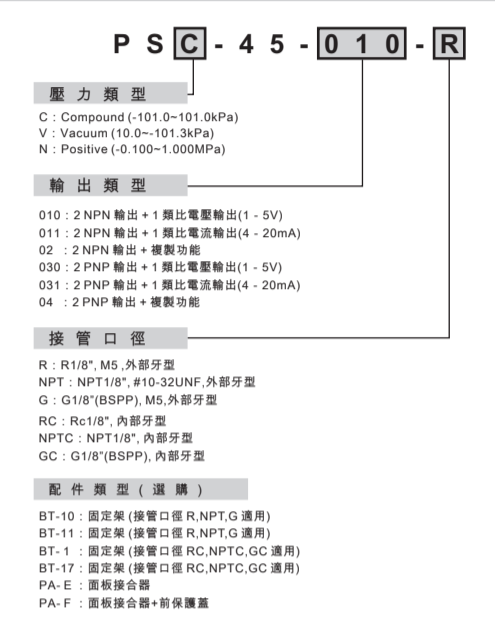
- 禁止使用於腐蝕性及易燃性的氣體或任何液體。
- 請在規格表內的額定壓力範圍內使用，若供給之壓力超過最大耐壓會使本產品損壞，導致功能異常。
- 裝設本產品時，請勿用力撞擊或從高處掉落，即使外觀未受損害也可能因內部零件損壞而導致功能異常。
- 在連接本產品於電路控制系統時，應先關掉電源，因為錯誤的接線或短路會導致本產品損壞。
- 本產品請勿使用在有水氣或油霧的環境中。
- 本系列產品並未作有防塵設計，請勿使用於空氣中含有爆炸性氣體或粉塵環境中。
- 不可將連接本產品的導線與電源線或其它高壓電線纏繞在一起，以避免雜訊的干擾，而影響到本產品的功能。

型號	PSN-45 (正壓)	PSV-45 (負壓)	PSC-45 (滿成壓)
額定壓力範圍	0.000~1.000MPa	0.0~-101.3kPa	-100.0~100.0kPa
設定壓力範圍	-0.100~1.000MPa	10.0~-101.3kPa	-101.0~101.0kPa
耐壓力	1.5MPa		300kPa
適用氣體	空氣，非腐蝕性，不可燃性		
壓力單位 設定最小刻度	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
電源電壓	12 to 24V DC ±10%, 連續峰值 10% 以下		
消費電流	≤40mA 以下(無負載時)		
輸出型態	輸出型態	2 NPN 或 2 PNP 開集極輸出	
	最大負載電流	125mA	
	最大供應電壓	2 NPN 30V DC, 2 PNP 24V DC	
	內部壓降	1.5V 以下	
反應時間	反應時間	≤2.5ms	
	(預防防滯動作: 25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms 可選擇)		
輸出短路保護	電壓型	1~5V(±2.5%)	
	電阻型	約1kΩ	
類比輸出	電流輸出	4~20mA(±2.5%)	
	電壓型	負載阻抗最大: 250Ω 在電壓為12V 600Ω 在電壓為24V 負載阻抗最小: 50Ω	
直線性	直線性	±1% F.S.	
	顯示方式	3½位, 7段 LCD 顯示 (紅色/綠色/橙色) (取樣率: 5次/秒)	
顯示	動作顯示燈	橙色指示燈 1: OUT1 & 綠色指示燈 2: OUT2	
	更新時間	約0.2秒	
顯示精度	顯示精度	±2% F.S. ±1 digit (在溫度: 25±3°C)	
	重複精度	±0.2% F.S. ±1 digit	
結構保護等級	結構保護等級	IP65	
	使用溫度範圍	0~50°C	
儲存溫度範圍	儲存溫度範圍	-10~60°C (無水露及不結冰狀況下)	
	環境濕度範圍	35~85% RH (無水露)	
耐電壓	耐電壓	1000V AC 1分鐘 (引線及塑膠外殼間)	
	絕緣阻抗	50MΩ 以上 (500V DC) (引線及塑膠外殼間)	
耐振動	耐振動	橫擺幅 1.5mm, 每1分鐘 10Hz~55Hz~10Hz, X, Y, Z 每個方向各2小時	
	耐衝擊	100m/s ² (10G) X, Y, Z 每個方向各3次	
溫度特性	溫度特性	±2% F.S. 比較參考溫度 25°C (0~50°C 溫度範圍內)	
	接口型	R: R1/8", M5, 外部牙型 NPT: NPT1/8", #10-32UNF, 外部牙型 G: G1/8"(BSPP), M5, 外部牙型 RC: Rc1/8", 內部牙型 NPTC: NPT1/8", 內部牙型 GC: G1/8"(BSPP), 內部牙型	
電線規格	Ø4 耐油 PVC-2B AWG (0.15mm ²) - 5 芯		
重量	按接口型 R, NPT, G 約 86g; 按接口型 RC, NPTC, GC 約 114g (包含 2公尺的電線)		

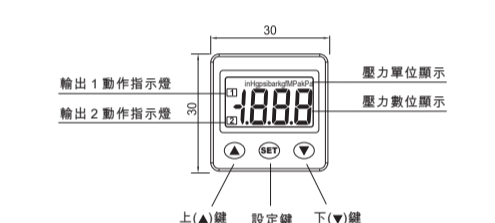
B. 輸出電路接線圖



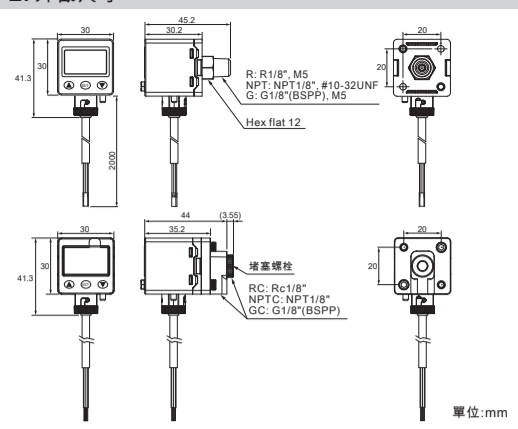
C. 型號規格說明



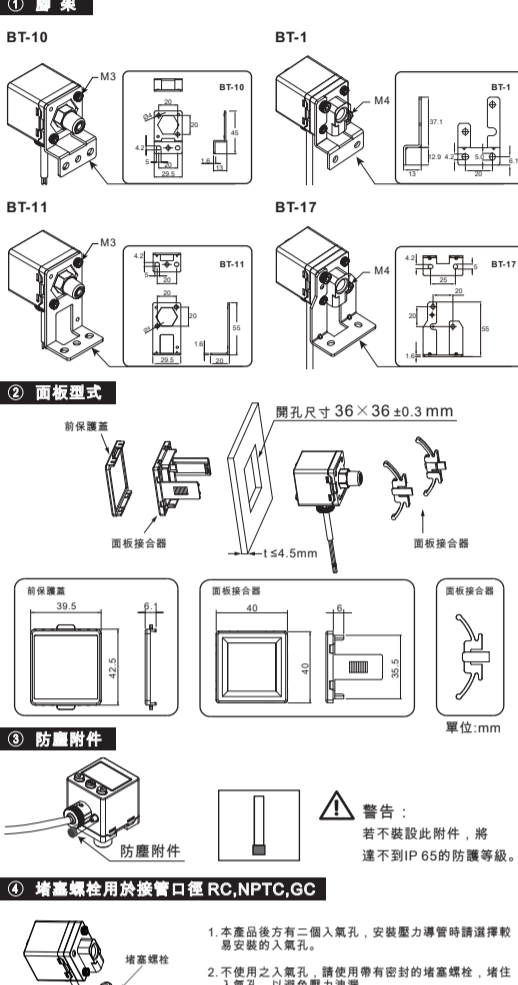
D. 面板說明



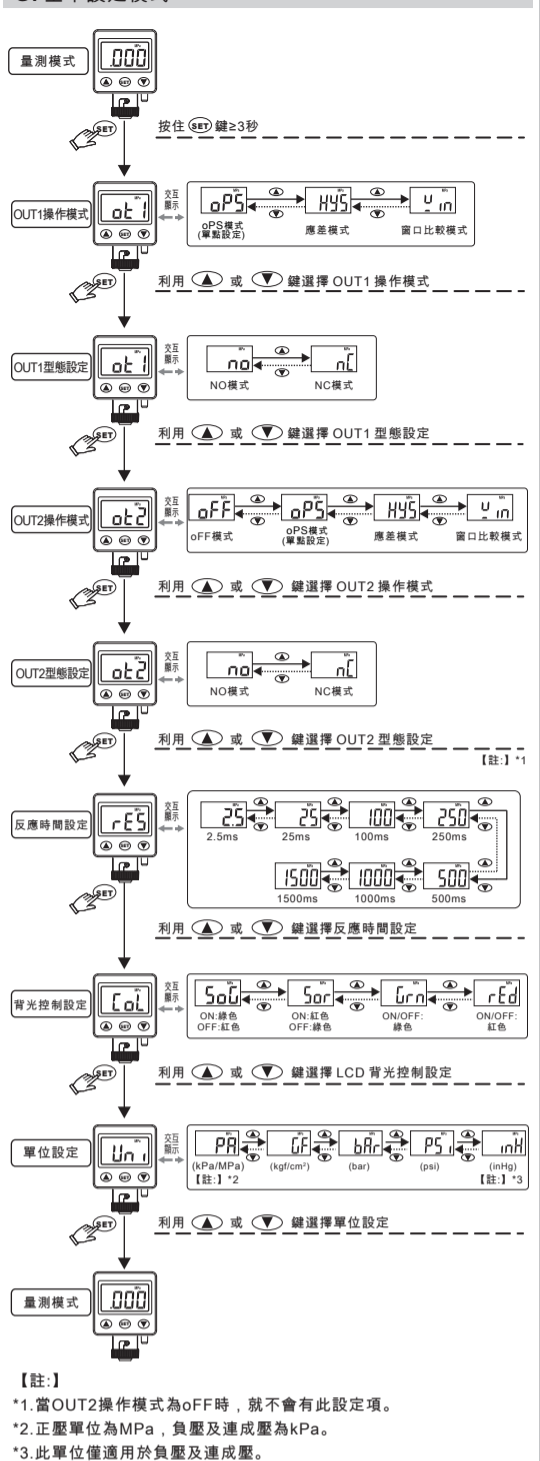
E. 外觀尺寸



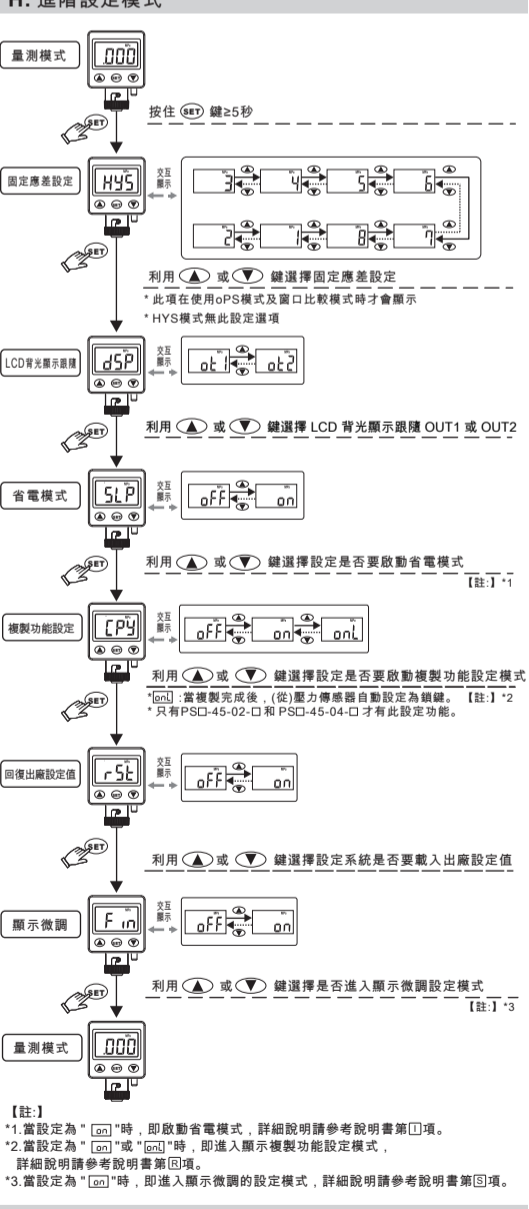
F. 配件類型 / 尺寸圖



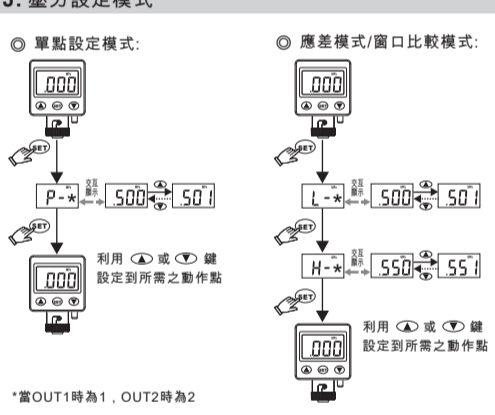
G. 基本設定模式



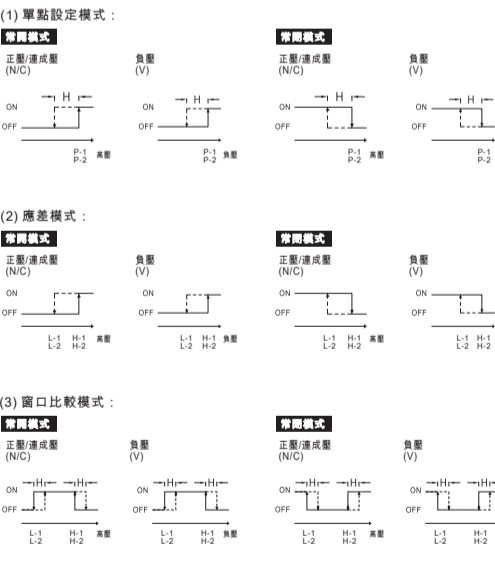
H. 進階設定模式



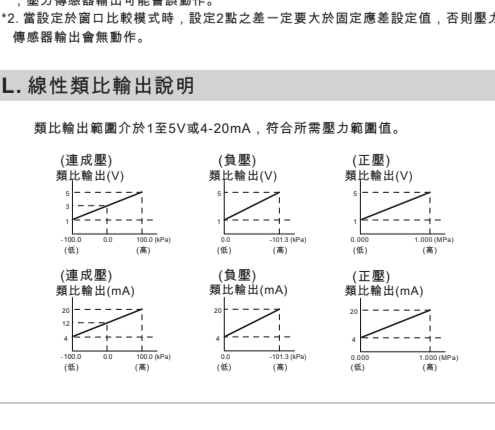
J. 壓力設定模式



K. 輸出型態



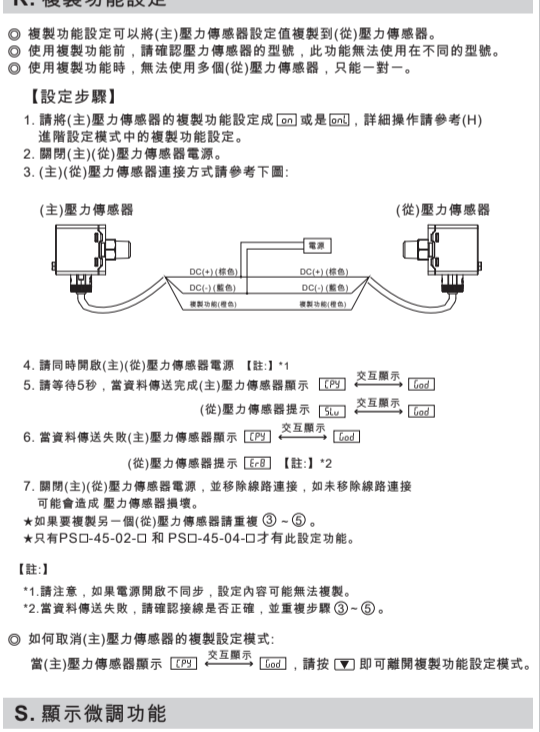
L. 線性類比輸出說明



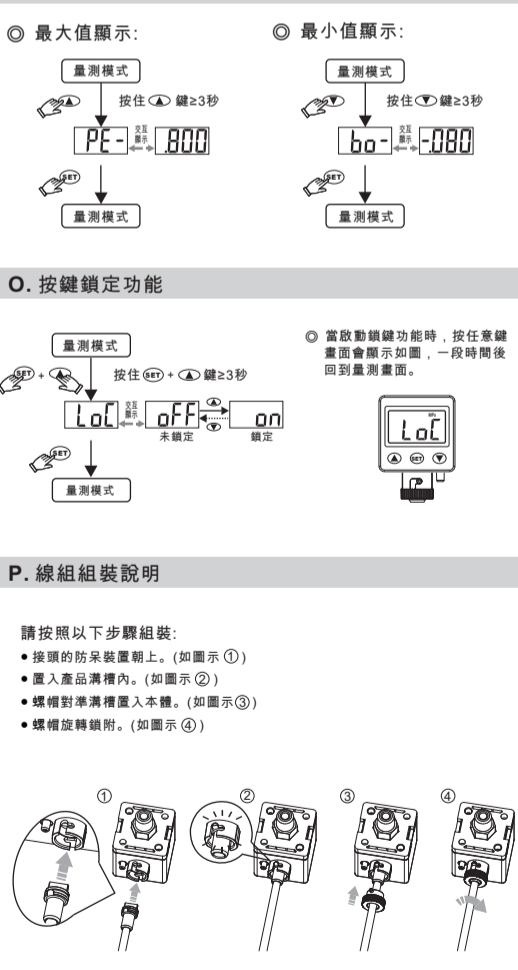
M. 歸零設定



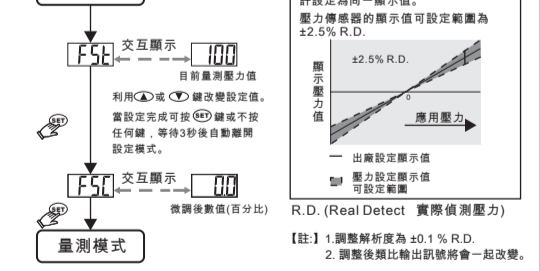
R. 複製功能設定



P. 線組裝說明



S. 顯示微調功能



T. 錯誤訊息說明

錯誤名稱	錯誤顯示	錯誤說明	解決
過電流錯誤	Er1	輸出1負載電流超過125mA	斷接電源, 檢查負載電流過大的原因或將負載電流降至125mA
	Er2	輸出2負載電流超過125mA	同上
殘留壓力錯誤	Er3	零位設定範圍超過±3% F.S.	改變周圍壓力之後, 再重新作歸零
使用壓力錯誤	HHH	使用的壓力超過壓力設定值的上限	供給壓力請調整在使用壓力範圍內
	LLL	使用的壓力超過壓力設定值的下限	同上
	Err	內部系統錯誤	切斷電源並重新供電若沒回復正常狀態則需送回原廠分析
系統錯誤	Er4	內部系統錯誤	同上
	Er5	內部系統錯誤	同上
複製資料錯誤	Er6	內部資料錯誤	同上
	Er7	內部資料錯誤	同上
複製資料錯誤	Er8	複製資料錯誤	請檢查型號及接線是否正確, 並重新供電若沒回復正常狀態, 則需送回原廠分析。