

能源管理系統

Energy Management System



Energy Management Systems

Allowing facility owners to shed some light on the unknowns of their power system, the fully integrated PMCS Energy Management System provides the tools to help control energy costs, minimize downtime and increase productivity.



Monitoring Power Quality Cost Allocation Control & Automation

Basic Advanced



WebSpace




SCADA Control **Historical Analysis** **Alarm** **KPI Monitoring** **Operation Report**

SCADA控制 歷史分析 報警回應 KPI監視 運行報表

KSPS SWITCHING POWER SUPPLY

FEATURES

- A wide range selectable to meet various application
- 230K~300Khr. MTBF
- RoHS version in option
- Compact size with DIN rail mounting



ORDERING INFORMATION

KSPS- [Output Rating] - [Output Voltage]

CODE	OUTPUT RATING	CODE	OUTPUT VOLT
020	20 Watts	05	5V
025	25 Watts	12	12V
050 (040)	50 Watts, 5V output only 40 Watts, code: 040	24	24V
100	100 Watts	VO	Specify Voltage
150	150 Watts	Please refer to the table of power rating on right side for the capability of output current.	
300	300 Watts		
500	500 Watts		

Power Rating	5V	12V	24V
20 Watts	4A	X	X
25 Watts	X	2.08A	1.04A
50 Watts	*8.0A	4.2A	2.1A
100 Watts	X	X	4.2A
150 Watts	X	X	6.25A
300 Watts	X	X	12.5A
500 Watts	X	X	20.8A

* 50Watts 5V/8.0A output power rating of only 40Watts

TECHNICAL SPECIFICATION

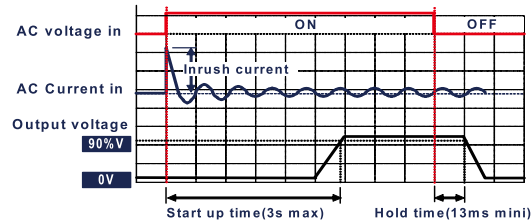
MODEL	20W	25W	50W	100W	150W	300W	500W
INPUT							
Voltage	AC 100~240V, 47~63Hz			AC 115 and 230V switchable by switch			
Efficiency (at 110V rated load)	5V	70%	--	72%	--	--	--
	12V	--	75%	75%	--	--	--
	24V	--	76%	78%	80%	76%	82%
Inrush Current	110V	20A		--	--	--	--
	220V	40A		40A	40A	40A	40A
OUTPUT							
Output indication	Green LED						
Voltage adjustment	-10% to 10% (with VR adjustment)						
Ripple (Vp-p)	5V	50mV	--	65mV	--	--	--
	12V	--	120mV	100mV	--	--	--
	24V	--	150mV	240mV	240mV	250mV	240mV
Voltage tolerance	±1.0% max., (with rated input, 0 to 100% load)						
Linearly	±1.0% max., (with rated input, 0 to 100% load)						
Load influence	±1.0% max., (with rated input, 0 to 100% load)						
Start up time	3 seconds max. (at rated input/output voltage)						
Hold time(at 110V)	13ms						
Short protection	Auto reset in standard						
ENVIRONMENTAL							
Ambient temp.	Operating: -15°C ~ 50°C; Storage: -20°C ~ 85°C						
Ambient humidity	Operating: 5 to 95 % RH; Storage: 5 to 95 % RH						
Temp. influence	0.05%/°C max.(0~50°C)						
Voltage influence	0.5% max. (at 85 to 264 VAC input, 100% load)						
Vibration resistance	10 to 500Hz, 2G, 10 min/cycle for 1 hour each in X, Y, and Z						
Shock resistance	150 m/s ² (about 50g) 3 times each in X, Y, and Z directions						
ELECTRICAL SAFETY							
Dielectric strength	AC 2.0 kV for 1 min. (between input, output and housing; detection:						
Insulation resistance	100 MΩ min. (between input, output and housing) at 500 VDC						
EMC	EN55022 Class B, EN61000-3-2, EN61000-3-3, EN55024, IEC61000-4-2, -3, -4, -5, -6, -8, -11						
MECHANICAL							
Dimensions	104(H) x35(D) x45(W)	104(H) x76(D) x45(W)	100(H) x83(D) x49(W)	100(H) x100(D) x60(W)	100(H) x100(D) x90(W)		
Housing	Self-extinguishing, black ABS, UL94V0		Aluminum				
Terminals	Screw terminal, up to 2 x 2.5mm ² wire						
Mounting	35mm DIN rail (EN50022)						
Weight	190g	210g	380g	450g	600g	820g	

DESCRIPTION OF TECHNICAL

Short protection

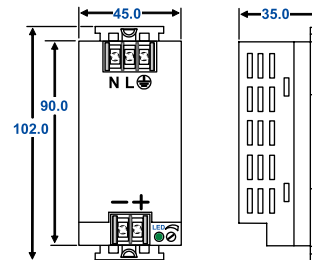
The short protection function of idea is same as over load protection with more strictly condition. That protects the power supply from possible damage by short current.

Inrush Current, Start Up Time, Output Hold Time

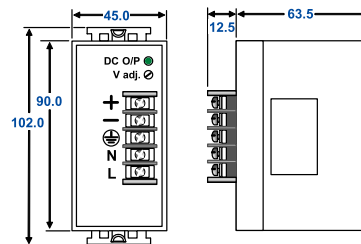


DIMENSIONS

KSPS-20W/25W



KSPS-50W



KSPS 直流電源供應器

■ 特點

- 規格齊全、型號豐富，適合大部分的控制需求
- 230K~300Khr. MTBF
- 符合 RoHS 製程要求
- 體積小，軌道安裝(DIN rail mounting)



KSPS Power supply

■ 型號編碼



COD	額定功率	CODE	輸出電壓
020	20 Watts	05	5V
025	25 Watts	12	12V
050	50 Watts, 5V 時僅輸出 40 Watts, 代碼為 040	24	24V
100	100 Watts	XX	指定電壓輸出
150	150 Watts		
300	300 Watts		
500	500 Watts		

請參考左邊列出的電壓、電流及功率對應表選擇相對應的規格

額定功率	5V	12V	24V
20 Watts	4A	X	X
25 Watts	X	2.08A	1.04A
50 Watts	* 8.0A	4.2A	2.1A
100 Watts	X	X	4.2A
150 Watts	X	X	6.25A
300 Watts	X	X	12.5A
500 Watts	X	X	20.8A

* 50Watts 5V/8.0A 輸出時, 只有 40Watts 的額定功率

■ 技術規格

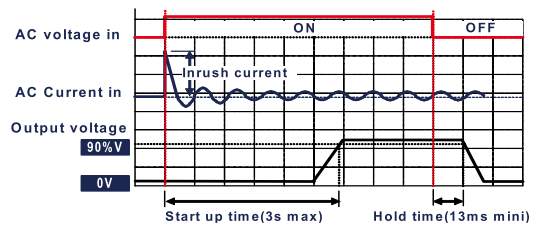
功率	20W	25W	50W	100W	150W	300W	500W
輸入電壓	AC 100~240V, 47~63Hz			AC 115 and 230V 開關切換			
效率	5V	70%	--	72%	--	--	--
	12V	--	75%	75%	--	--	--
	24V	--	76%	78%	80%	76%	82%
突波電流	110V	20A	20A	20A	--	--	--
	220V	40A	40A	40A	40A	40A	40A
輸出指示燈	綠色圓型 LED						
電壓調整範圍	- 10% to 10% 電位計調整						
漣波 (Vp-p)	5V	50mV	--	65mV	--	--	--
	12V	--	120mV	100mV	--	--	--
	24V	--	150mV	240mV	240mV	250mV	240mV
電壓變動率	±1.0% max., (在額定輸入, 0 ~ 100%負載狀態下)						
線性度	±1.0% max., (在額定輸入, 0 ~ 100%負載狀態下)						
負載變動影響	±1.0% max., (在額定輸入, 0 ~ 100%負載狀態下)						
啟動時間	3 秒 max. (在額定輸入/輸出電壓)						
保持時間(at 110V)	13ms						
短路保護功能	自動復歸						
環境條件							
環境溫度	使用溫度: -15°C ~ 50°C; 儲存溫度: -20°C ~ 85°C (無結露)						
環境溼度	使用溼度: 5 to 95 % RH; 儲存溼度: 5 to 95 % RH						
溫度影響	0.05%/°C max. (0~50°C)						
電壓變動影響	0.5% max. (在 85 to 264 VAC 輸入, 100%負載狀態下)						
耐振動	10 to 500Hz, 2G, 10 min/cycle X, Y, and Z 方向各方持續 1 小時						
耐衝擊	150 m/s ² (about 50g) X, Y, and Z 方向各方持續 3 次						
電氣特性及安規							
耐電壓	AC 2.0 kV 1 分鐘. (輸入, 輸出 及 外殼 之間; detection: 20 mA)						
絕緣組抗	100 MΩ min. at 500 VDC (輸入, 輸出 及 外殼 之間)						
EMC	EN55022 Class B, EN61000-3-2, EN61000-3-3, EN55024, IEC61000-4-2, -3, -4, -5, -6, -8, -11						
機械結構							
外觀尺寸	104(H) x35(D) x45(W)	104(H) x76(D) x45(W)	100(H) x83(D) x49(W)	100(H) x100(D) x60(W)	100(H) x100(D) x90(W)		
外殼	黑色 ABS, 防火等級 UL94V0			鋁殼			
端子	端子, up to 2 x 2.5mm ² wire						
安裝方式	35mm DIN rail (EN50022)						
重量	190g	210g	380g	450g	600g	820g	

■ 技術規格說明

- 短路保護

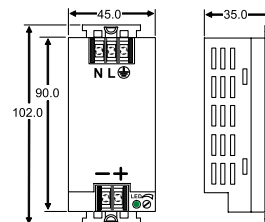
短路保護功能的想法是比過載保護更嚴格的條件。可以保護電源免受短路電流可能的損害。

- 突波電流、啟動時間、關閉時間 規格如下圖說明

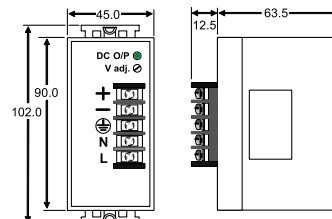


■ 外觀尺寸

KSPS-20W/25W

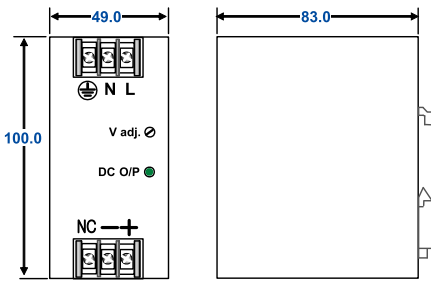


KSPS-50W

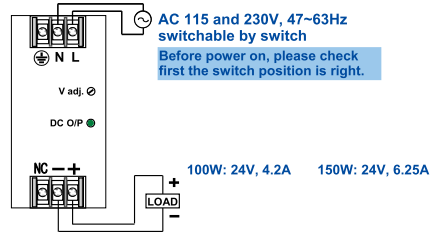


KSPS

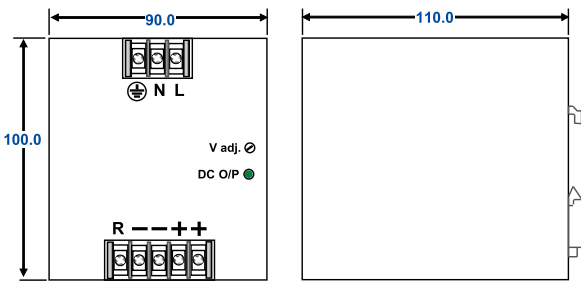
KSPS-100W/150W



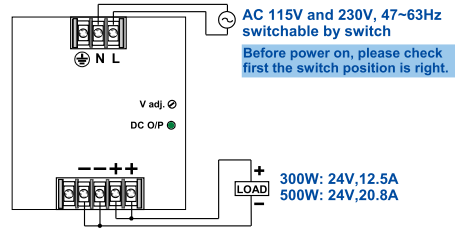
KSPS-100W/150W



KSPS-300W/500W



KSPS-300W/500W



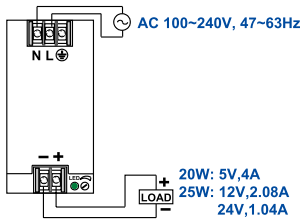
OUTPUT VOLTAGE ADJUSTMENT



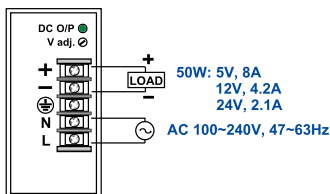
CONNECTION DIAGRAM

Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

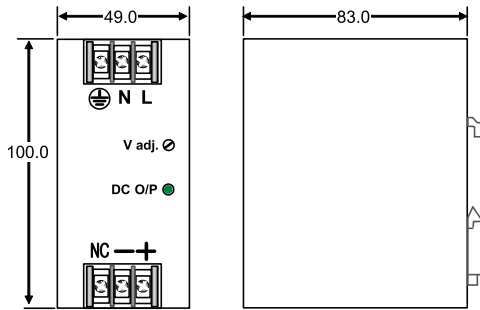
KSPS-20W/25W



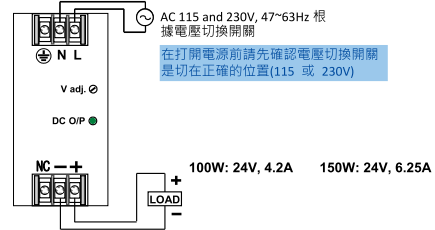
KSPS-50W



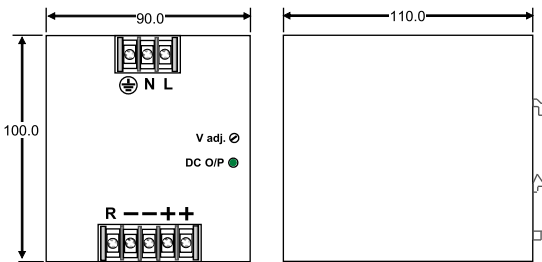
KSPS-100W/150W



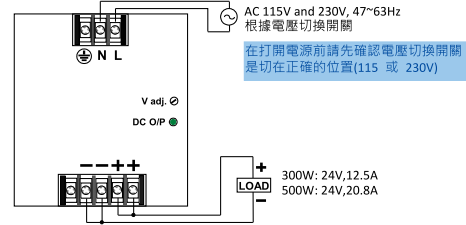
KSPS-100W/150W



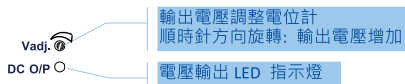
KSPS-300W/500W



KSPS-300W/500W



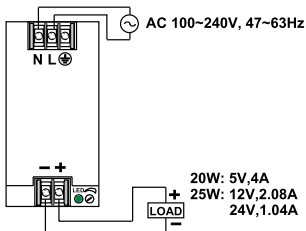
輸出電壓調整



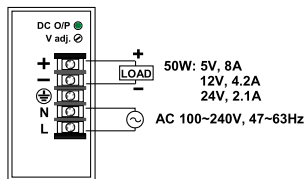
接線說明

在打開電源前請先確認接入的電壓及端子是正確的。
未使用安全，建議在電源測接入一個符合規規的無熔絲開關或保險絲

KSPS -20W/25W



KSPS -50W



KSPS

KSTH 2 WIRE TEMP. Transmitter WITH SENSOR

KSTH

FEATURE

- Accuracy: RTD: 0.5%, T/C: 0.75%
- Wide selection of input
- Low output ripple
- High stability & low cost



SPECIFICATION

2 - WIRE TEMP. TRANSMITTER

Input Range	Input Impedance	Output Range	Load Resistance
Type K, 0 ~ 1200°C	≥ 1M ohm	4 ~ 20 mA	≤ (Vs-12) / 20mA (ohm)
Type J, 0 ~ 1000°C	≥ 1M ohm		
Type E, 0 ~ 800°C	≥ 1M ohm		
Type T, -50 ~ 400°C	≥ 1M ohm		
Pt100Ω, -100 ~ 800°C	≥ 10M ohm		

- Accuracy:** RTD (Pt100): ±0.15% of FSO
T/C (K, J, E, T): ±0.3% of FSO
- Response time:** ≤ 300 msec.
- Span adjustment:** ≤ 10% of FSO
- Zero adjustment:** ≤ 5% of FSO
- Output ripple:** ≤ 0.3% of FSO
- Power Supply:** DC 16 ~ 36V
- Open circuit protection:** Upscale ≥ 22mA
- Operating temperature:** 0~60°C
- Operating relative humidity:** 20~95 %RH
- Temperature coefficient:** ≤ 100 PPM/°C
- Cold junction compensation:** 25±10°C, error ≤ 0.5°C
- Storage temperature:** -10~70°C
- Weight:** 50g

Mechanical

- Material:** Tube, Connection: St. Steel 316
Head: Aluminum case
- Tube diameter:** 3.2, 4.8, 6.4, 8.0, 9.0, 12.75 mm
- Connection:** 1/4", 3/8", 1/2" NPT or PT male
Sliding connection or Flange available
- Thermo-Well:** 1/4", 3/8", 1/2" NPT or PT male
Flange available

ADJUSTMENT

Thermocouple input: Pt100Ω input:

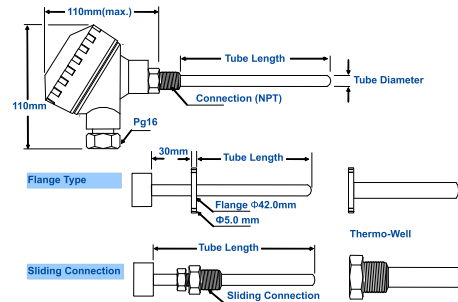
ZERO: Zero Adjust Pot (Clockwise: o/p increase)

SPAN: Span Adjust Pot (Clockwise: o/p increase)

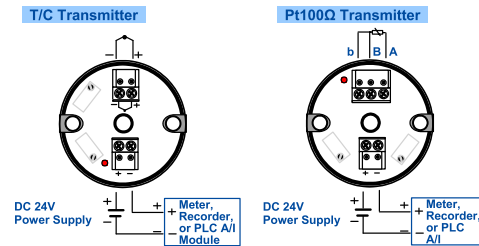
SW101 OFFSET	1	2	3	4
+150 °C	ON			
+20 °C		ON		
0 °C			ON	
-20 °C				ON

SPAN (B)	1	2	3	4
50 °C				
100 °C				ON
150 °C			ON	
200 °C				ON
250 °C	ON			
300 °C		ON		
350 °C			ON	
400 °C	ON			
450 °C		ON		
500 °C			ON	
550 °C				ON
600 °C	ON			
650 °C		ON		
700 °C			ON	
750 °C				ON
800 °C	ON			

DIMENSIONS



CONNECTION DIAGRAM



ORDER INFORMATION

RTD		THERMOCOUPLE					TEMPERATURE RANGE		LENGTH		DIAMETER		CONNECTION				THERMO-WELL																		
P	K	J	E	T	A	B	C	D	E	F	G	H	I	J	K	O	N2	N3	N4	P2	P3	P4	G2	G3	G4	S2	S3	S4	F4	N	O				
•				•						03	30 mm	3	3.2 mm	N2	1/4" NPT	N2	1/4" NPT																		
	•									04	40 mm	4	4.8 mm	N3	3/8" NPT	N3	3/8" NPT																		
		•								05	50 mm	6	6.4 mm	N4	1/2" NPT	N4	1/2" NPT																		
			•							06	60 mm	8	8.0 mm	P2	1/4" PT	P2	1/4" PT																		
				•						08	80 mm	9	9.0 mm	P3	3/8" PT	P3	3/8" PT																		
					•					10	100 mm	C	12.75	P4	1/2" PT	P4	1/2" PT																		
						•				12	120 mm	O	Specify	G2	1/4" PF	G2	1/4" PF																		
							•			15	150 mm			G3	3/8" PF	G3	3/8" PF																		
								•		20	200 mm			G4	1/2" PF	G4	1/2" PF																		
									•	25	250 mm			S2	1/4" NPT																				
										30	300 mm			S3	3/8" NPT																				
										40	400 mm			S4	1/2" NPT																				
										O	Specify			F4	Φ42mm Flange																				
														N	None																				
														O	Specify																				

KSTH 2 線式溫度傳送器 (含感測元件)

■ 特點

- 精度: RTD: 0.5%, T/C: 0.75%
- 輸入選擇廣泛。
- 低漣波輸出。
- 高穩定性與低成本。



■ 技術規格

2 線式溫度傳送器

輸入範圍	輸入阻抗	輸出範圍	負載阻抗
Type K, 0 ~ 1200°C	≥ 1M ohm	4 ~ 20 mA	≤ (Vs-12) / 20mA (ohm)
Type J, 0 ~ 1000°C	≥ 1M ohm		
Type E, 0 ~ 800°C	≥ 1M ohm		
Type T, -50 ~ 400°C	≥ 1M ohm		
Pt100Q, -100 ~ 800°C	≥ 10M ohm		

精度: RTD (Pt100): ±0.15% of FSO
T/C (K, J, E, T): ±0.3% of FSO

反應時間: ≤ 300 msec.

滿刻度調整: ≤ 10% of FSO

零點調整: ≤ 5% of FSO

輸出漣波: ≤ 0.3% of FSO

工作電源: DC 16 ~ 36V

開路保護: 輸出最大值 ≥ 22mA

工作溫度: 0~60°C

工作相對濕度: 20~95 %RH

溫度係數: ≤ 100 PPM/°C

冷接點補償: 25±10°C, 誤差≤ 0.5°C

儲存溫度: -10~70°C

重量: 50 克(不含感測器重量)

機械結構

材質: 連接管: 不鏽鋼 316
頭部: 鋁殼

管徑: 3.2, 4.8, 6.4, 8.0, 9.0, 12.75 mm

連接: 1/4", 3/8", 1/2" NPT 或 PT 公螺牙
可用滑動螺牙或法蘭連接

保護套管螺牙型式: 1/4", 3/8", 1/2" NPT 或 PT 公螺牙
可法蘭連接

■ 校正調整

熱電偶 輸入: 電源指示 LED

Pt100Q 輸入: SW102

Pt100Q 範圍選擇

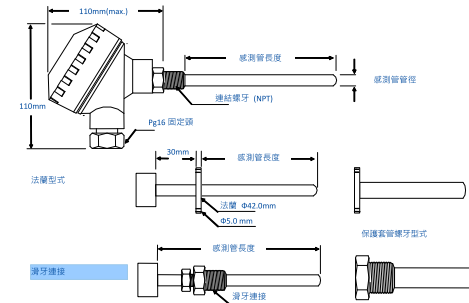
SW101	1	2	3	4
無接線				
+50 °C	ON			
+20 °C		ON		
0 °C			ON	
-20 °C				ON

SW102	(8)	1	2	3	4
溫度					
50 °C					ON
100 °C					ON
150 °C					ON
200 °C					ON
250 °C					ON
300 °C					ON
350 °C					ON
400 °C					ON
450 °C					ON
500 °C					ON
550 °C					ON
600 °C					ON

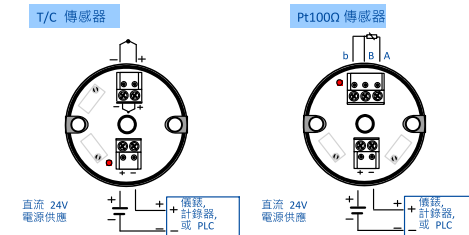
ZERO: 零點調整點 (順時針轉: 輸出增加)

SPAN: 滿刻度調整點 (順時針轉: 輸出增加)

■ 尺寸外觀



■ 接線圖



■ 規格選擇表

KSTH — 輸入型式 — 溫度範圍 — 感測器管長 — 感測器管徑 — 固定螺牙型式 — 保護套管螺牙型式

RTD	熱電偶	CODE	溫度範圍	CODE	管長	CODE	管徑	CODE	固定螺牙型式	CODE	保護套管螺牙型式
P	K	A	-50~+100°C	03	30 mm	3	3.2 mm	N2	1/4" NPT	N2	1/4" NPT
•		B	-10~+40°C	04	40 mm	4	4.8 mm	N3	3/8" NPT	N3	3/8" NPT
•		C	0~50°C	05	50 mm	6	6.4 mm	N4	1/2" NPT	N4	1/2" NPT
•	•	D	0~100°C	06	60 mm	8	8.0 mm	P2	1/4" PT	P2	1/4" PT
•	•	E	0~200°C	08	80 mm	9	9.0 mm	P3	3/8" PT	P3	3/8" PT
•	•	F	0~400°C	10	100 mm	C	12.75	P4	1/2" PT	P4	1/2" PT
•	•	G	0~500°C	12	120 mm	O	指定	G2	1/4" PF	G2	1/4" PF
•	•	H	0~600°C	15	150 mm			G3	3/8" PF	G3	3/8" PF
•	•	I	0~800°C	20	200 mm			G4	1/2" PF	G4	1/2" PF
•	•	J	0~1000°C	25	250 mm			S2	1/4" NPT 移動式	F4	Ø42mm 法蘭
•	•	K	0~1200°C	30	300 mm			S3	3/8" NPT 移動式	N	無螺牙
•	•	O	指定溫度範圍	40	400 mm			S4	1/2" NPT 移動式	O	指定
				O	指定			F4	Ø42mm 法蘭		
								N	無螺牙		
								O	指定		

KSCO1 Carbon Monoxide CO Transmitter (Indoor use)

■ Features

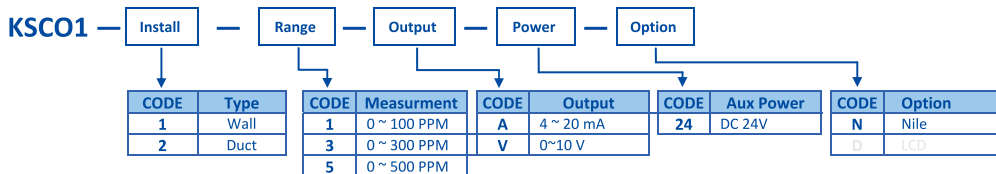
Long life span, Electrochemistry sensing theory, low gas interference,
External sensor increase accuracy and CO acuity,
High Stability, linear output.

■ Applications

HVAC air-con system \ Instrument equipment/Environment monitoring and
system control, Car Park/Green house ,farm etc
(Product use only in environmental monitoring control)



■ Product code



■ Specifications

Sensor : Electrochemistry CO sensor
Input : Specify
Range : 0~500PPM
Output : 0~10V OR 4~20mA
Accuracy : ±3 % F.S
Acuity : < ±10ppm
Load Resistance : Output 4~20mA · ≤ 500Ω ;
Output 0~10V · ≥ 10KΩ ;
Response Time : 60 sec (Diffusion time)
Wiring : 3 Wire type
Measuring medium : Non-invasive gas · In HVAC (Air-con \ ventilation) systems.
Zero and span setting : Adjustable range 10 %
Medium temperature range : 0~50°C
Zero Basis : < 10ppm

Temperature

Working Temperature : 0 ~ 50°C
Humidity : 5 ~ 95 %RH,(Non-condensing)
Storage : -10 ~ 60°C

Power

Auxiliary : DC 24V±10%
Power Consumption : < 40mA ;Display < 80mA
Operating Current : > 0.6A
Electric connection : 3P Terminal and M16 head fastener

Installation

Type : Wall Mount / Duct
Protection Class : Body IP64 / Sensor:IP20
Electric Protection : Over Voltage / Reverse wire

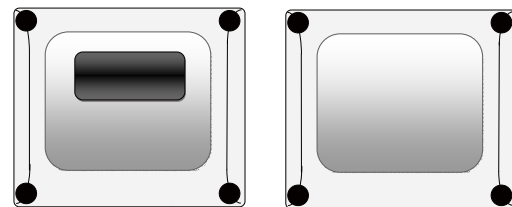
Hardware

Dimension : Body : 80mm(W) x 80mm(L) x38mm(H)
Case : PC non-flammable
Weight : Wall Mount:165g / Duct:210g
Mounting : Base screw mount

Display panel(LCD Type only)

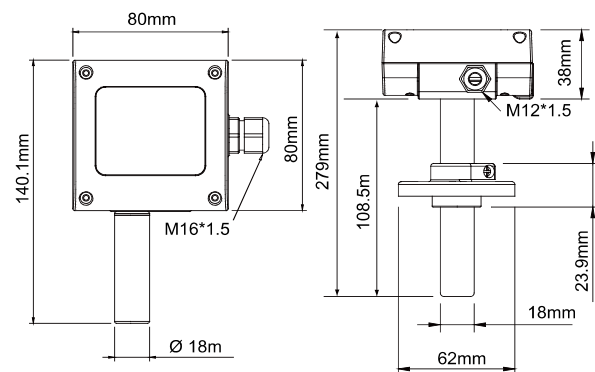
Display type: LCD module and backlight
Display range: According to specify range, single row digit
Digits Height: 5.56mm

■ Front Panel

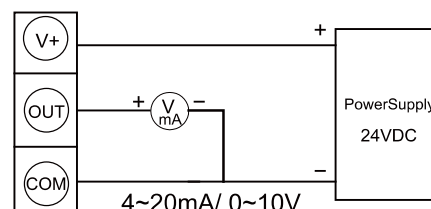


Measuring Input

■ Dimension



■ Wiring diagram



KSCO1 一氧化碳傳送器(室內型)

■特點

使用壽命長、電化學感應原理、低氣體干擾性
 外露式測棒，增加 CO 感應靈敏度
 穩定性高與輸出線性佳

■應用

HVAC 空調系統、儀器設備/環境控制與監控系統、停車場/溫室蔬
 果園(倉庫)... 等



(本產品只適用於環境品質監控)

■規格選擇表

KSCO1 — 安裝方式		量測範圍	輸出信號	工作電源	附加功能				
CODE	安裝方式	COD	量測範圍	COD	輸出信號	COD	工作電源	COD	附加功能
1	壁掛式	1	0 ~ 100	A	4 ~ 20 mA	24	DC 24V	N	無
2	風管式	3	0 ~ 300	V	0~10 V			D	LCD 顯示
		5	0 ~ 500 PPM						

■技術規格

感測訊號種類：電化學 CO 感應器
 量測範圍：依規格選型
 工作範圍：0~500PPM
 輸出訊號：0~10V 或 4~20mA
 精度：±3 % F.S
 靈敏度：< ±10ppm
 負載阻抗：輸出為 4~20mA 時 · ≤ 500Ω ；
 輸出為 0~10V 時 · ≥ 10KΩ ；
 反應時間：60 sec (擴散時間)
 接線方式：三線式
 測介質：不具侵襲性氣體，在 HVAC (供暖、通風、空調)系統中。
 歸零點與滿刻度調整範圍：零點與滿刻度的 10 %
 測介質溫度：0~50°C
 基準零點：< 10ppm

■工作環境

工作溫度：0 ~ 50°C
 工作相對濕度：5 ~ 95 %RH, 不結露
 儲存溫度：-10 ~ 60°C

■電源

工作電源：DC 24V±10%
 消耗電流：< 40mA ; 有顯示 < 80mA
 啟動電流：> 0.6A
 電氣連接：3P 端子台與 M16 電纜固定頭

■安裝方式

產品安裝：壁掛式 / 風管式
 保護等級：本體 IP64 / Sensor:IP20
 電氣保護：過電壓 / 逆向保護

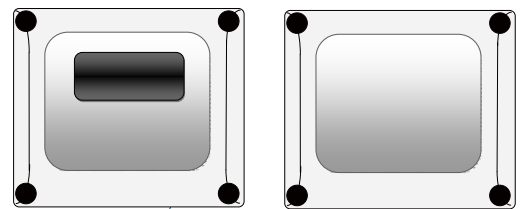
■機械結構

外觀尺寸：本體：80mm(寬) x 80mm(長) x 38mm(高)
 外殼：PC 防火材質
 重量：壁掛式:約 165 克 / 風管式:約 210 克
 固定方式：底座螺絲固定

■面板顯示(有 LCD 顯示)

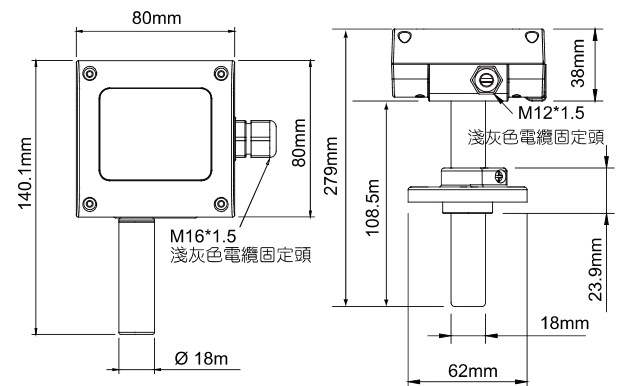
顯示器種類：LCD 模組與背光
 顯示範圍：依選擇的量測範圍做顯示、單排顯示
 顯示字高：5.56mm

■面板

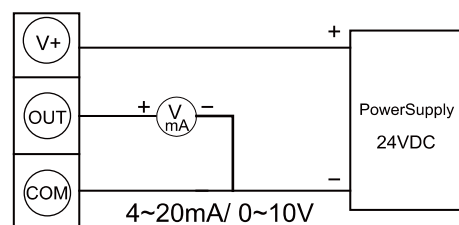


量測輸入窗

■尺寸外觀



■接線圖



KSC02 CO₂ Concentration Transmitter

FEATURES

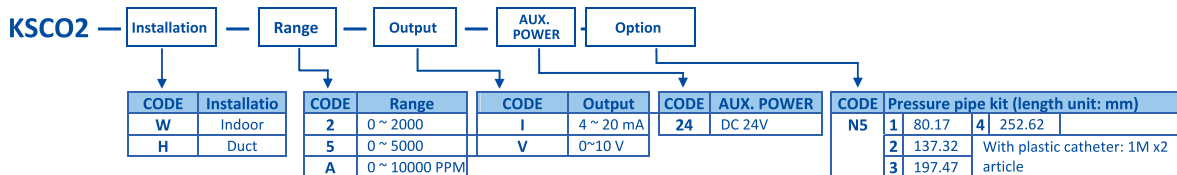
The KSC02 - carbon dioxide level is recently regarded as an important parameter that substantially determines the quality of the interior climate. With the CO₂ Concentration Transmitter, people can optimize the ventilation for creation of a healthy interior climate, and agriculturist can make the plants grow faster and healthier



APPLICATION

- Building HVAC management
- climate technology
- Schools, universities
- weather stations
- Environmental Control and Monitoring System
- meeting rooms, hospitals, cinemas, theatres
- parking lot/ greenhouse/ warehouse

ORDERING INFORMATION



TECHNICAL SPECIFICATION

Sensing signal: NDIR infrared non-distributed sensor
Measurement range: 2000 / 5000 / 10000 PPM
Operating range: 2000 / 5000 / 10000 PPM
Output signal: 0~10V or 4~20mA
Accuracy: ±30ppm±3 %
Sensitivity: ±20ppm±1 %
Load impedance: Output: 4~20mA · ≤ 500Ω ; Output: 0~10V · ≥ 10KΩ ;
Reaction time: Wall Mount : 20 sec Diffusion time
 Duct Type : @ 2 m/s wind speed · < 15 min ·
Measuring medium: Non-eroding gas in HVAC systems.
Zero and span adjustment: Zero & Span 10 %
Medium temperature: 0~50°C
Wiring: Three-wire
Zero point error: ±30ppm/10K
Range of measurement error: ±30ppm/10K

Working environment

Operating Temperature: 0 ~ 50°C
Relative humidity: 0 ~ 95 %RH, Non-condensing
Storage Temperature: -30 ~ 70°C

Power supply

Power Supply: DC 24V±10%
Power consumption: < 70mA
Start-up current: > 0.6A
Electrical connection: M12 Quick Connect seat

Mounting

Hosing classification: Wall-mounted / Duct type
Electrical protection: Wall-mounted type: IP54 / Duct type: IP64
 Over voltage/Reverse power protection

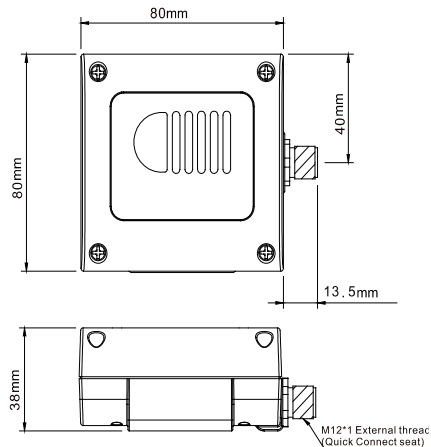
Mechanical

Dimensions: Main : 80mm(W) x 80mm(H) x 38mm(D)
Housing material: Flame retardant ABS
Probe material: Flame retardant ABS
Weight: Wall-mounted : 140g
 Wall - mounted: screw on
 Duct-mounted: Flange mounting

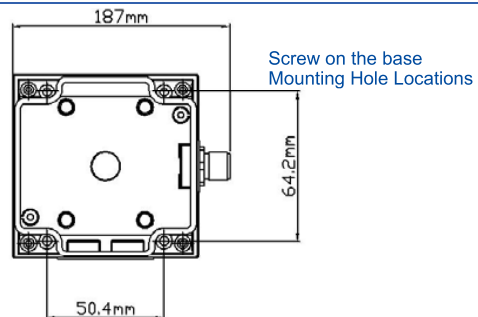
Optional Accessories

Probe length, N51~N54, for Duct-mounted kit

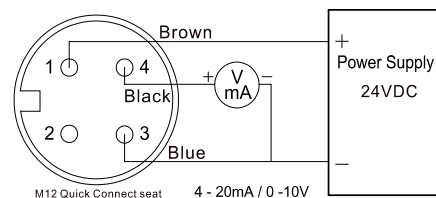
FRONT PANEL



DIMENSIONS



CONNECTION DIAGRAM



KSCO2

二氧化碳傳送器(室內型/風管型)

■特點

量測室內空氣中的 CO₂ 二氧化碳濃度。
當室內的二氧化碳濃度太高，會使人疲累，可透過通風調節系統來控制室內、室外空氣，讓 CO₂ 控制在最適的環境；農業應用提供植物的 CO₂ 讓植物生長快速健康。

■應用

- HVAC 空調系統、儀器設備
- 學校、大學
- 環境控制與監控系統
- 会议室/医院/电影院/剧院
- 停車場/溫室蔬果園/仓库...等
- 气候技术
- 氣象站



■規格選擇表

KSCO2		安裝型式	量測範圍	輸出信號	工作電源	附加功能			
CODE	安裝型式	CODE	量測範圍	CODE	輸出信號	CODE	工作電源	CODE	風壓管套組 (探測管長單位:mm)
W	室內型	2	0~2000	I	4~20 mA	24	DC 24V	N5	1 80.17 4 252.62
H	風管型	5	0~5000	V	0~10 V			2	137.32
		A	0~10000 PPM					3	197.47
									搭配塑膠導管:1M x2 條

■技術規格

偵測訊號種類： NDIR 紅外線非分散式感應器
 量測範圍： 2000 / 5000 / 10000 PPM
 工作範圍： 2000 / 5000 / 10000 PPM
 輸出訊號： 0~10V 或 4~20mA
 精度： ±30ppm±3 %
 靈敏度： ±20ppm±1 %
 負載阻抗： 輸出為 4~20mA 時，≤500Ω；
 輸出為 0~10V 時，≥10KΩ；
 反應時間： 壁掛型：20 sec 擴散時間
 風管型：在 2 m/s 風速下，< 15 min。
 測量介質： 不具腐蝕性氣體，在 HVAC(供暖、通風、空調)系統中。
 輸出調整範圍： 零點與滿刻度的±10 %
 測量介質溫度： 0~50℃
 接線方式： 三線式
 零點誤差： ±30ppm/10K
 量測範圍誤差： ±30ppm/10K

工作環境

工作溫度： 0~50℃
 工作相對濕度： 0~95 %RH, 不結露
 儲存溫度： -30~70℃

電源

工作電源： DC 24V±10%
 消耗電流： < 70mA
 啟動電流： > 0.6A
 電氣連接： M12 快速連接座

安裝方式

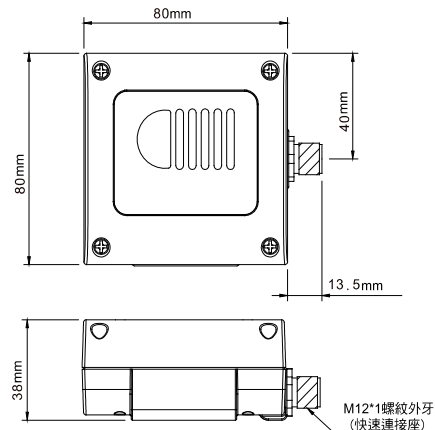
壁掛型 / 風管型
 保護等級： 室內型:IP54 / 風管型:IP64
 電氣保護： 過電壓 / 逆向保護

機械結構

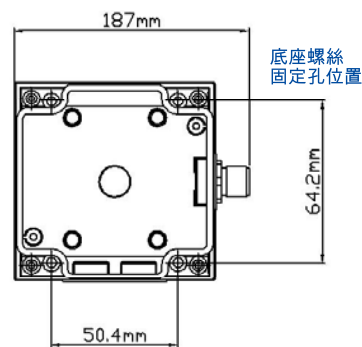
外觀尺寸： 本體：80mm(寬) x 80mm(長) x 38mm(高)
 外殼材質： ABS 阻燃材質
 探棒材質： ABS 阻燃材質
 重量： 壁掛型：140 克
 固定方式： 壁掛型：底座螺絲
 風管型：法蘭基座固定
 選購配件： 風壓管套組 · N51~N54 可選

選購配件

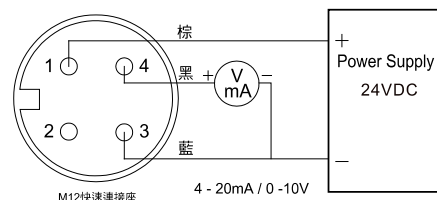
■尺寸外觀



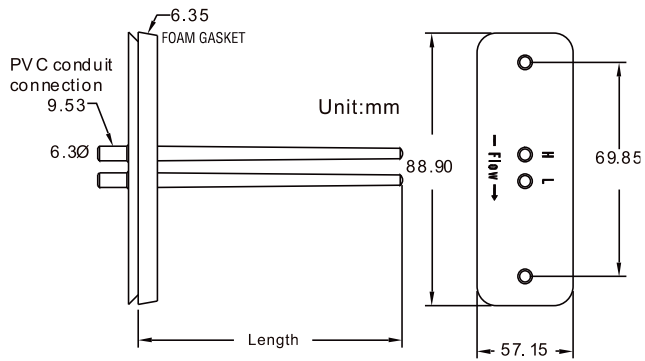
■開孔尺寸



■接線圖

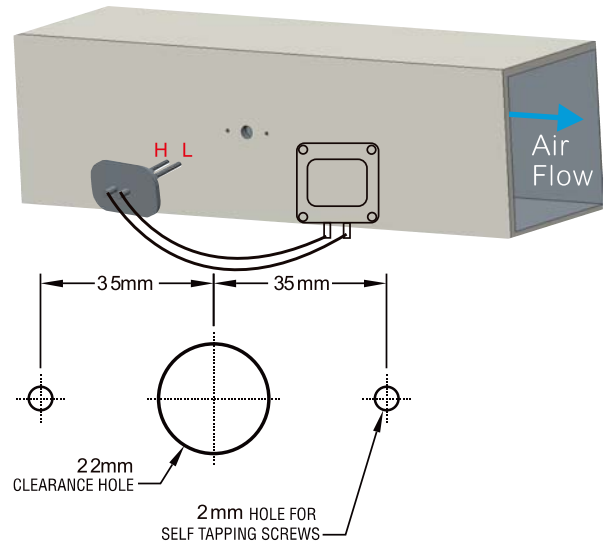


■ PROBE DIMENSION



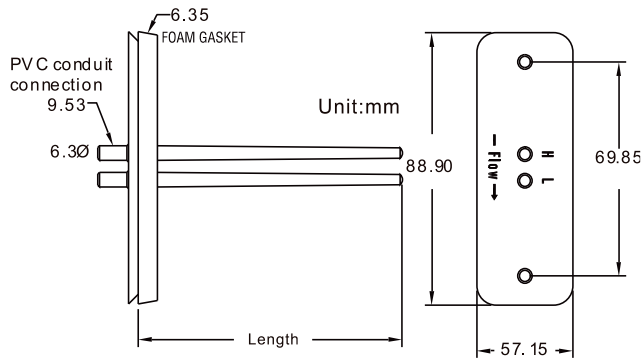
Model	Probe Lengths	Unit (mm)
N-51	80.17	6.3 \varnothing transparent probe length is H 1M / L 1M. Total Length is 2M.
N-52	137.32	
N-53	195.47	
N-54	252.62	

■ PROBE CUT-OUT DIMENSION



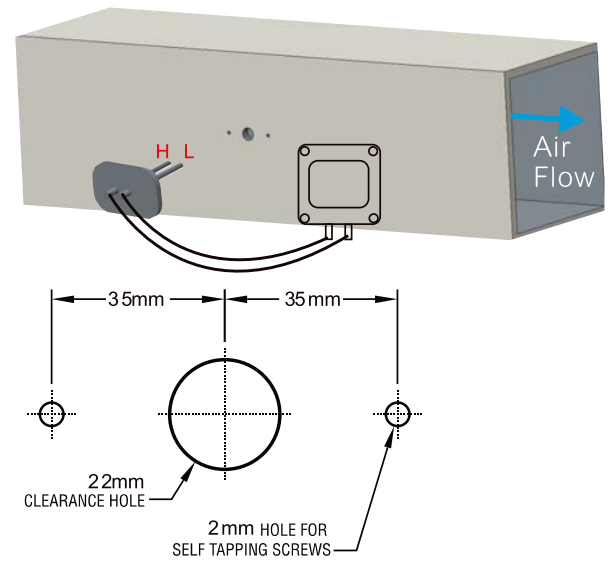
tube diameter: \varnothing 22mm; screw diameter \varnothing 2mm

■ 風壓套管尺寸外觀



型號	導管長度(Length)	單位(mm)
N51	80.17	套件中·6.3Ø 透明軟管長度為 H 端 1 米 / L 端 1 米· 共二米長度。
N52	137.32	
N53	195.47	
N54	252.62	

■ 風壓套管開孔尺寸



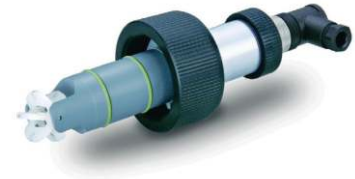
測管開孔:Φ22mm;套管固定螺絲孔 Φ2mm

KSFS Paddle Wheel Flow Sensor

KSFS

DESCRIPTION

KSFS - Paddle Wheel Flow Sensor · Using SUS and corrosion-resistant materials and design oxidation resistance, good stability and high resolution built-magnet rotor, NPN pulse square wave can be connected directly to the PLC / IPC, the product is easy to maintain, easy to operate.



FEATURE

- Waterproof and dustproof protection class IP68
- Measuring flow rate 0.3 ~ 6.0m / s

APPLICATION

Water Treatment Industry & Drinking water industry
 Chemical manufacturing transport process UF / RO equipment made
 Heat exchange and cooling water system pool circulation system.
 Water for irrigation and water distribution measurement



Diverse body material Industrial-type junction box

ORDERING INFORMATION

KSFS -		AUX. POWER		Main material		O Ring		Sensor Size		Plunger for Cap		Connection	
CODE	AUX. POWER	CODE	Main material	CODE	O Ring material	CODE	Sensor Size	CODE	Plunger for Cap	CODE	Connection		
A	5Vdc	C	CPVC	E	EPDM Synthetic rubber (Standard)	S	Short:127mm	N	Plastic	010	Option:10~150M (010~150)		
B	12~30Vdc	P	PTFE	V	Viton Fluorine Rubber	L	Long:185mm	Y	Stainless steel cap	M12	M12/4PIN Connector		
		S	SUS316L	Under acid & weathering environment recommended Viton fluorine rubber,			When fluid temperature is higher than 80 °C, or pressure is greater than 6 bar, please use stainless steel cap			TBP	Plastic junction box	TBA	Aluminum junction box
										TBS	SUS316 junction box		

SELECTION MOUNT SPECIFICATIONS (Optional extra valuation)

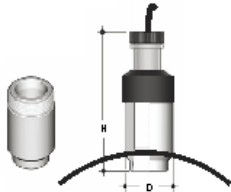
Short pipe welding (P1)

Material / Code Unit:mm

SUS316	CS	PVC	PP	CPVC	PVDF
SW-	BW-	VW-	PW-	CW-	DW-
SIZE	Code	Sensor Size	H	D	
2"~8"	020~080	-S (127mm)	127	43	
10"~16"	100~160	-L (185mm)	185	43	

EX: Chose PVC Material, SIZE "2": Code: VW-020-S

P1



Plastic tee (P3)

Material / Code (Intubation socket) Unit:mm

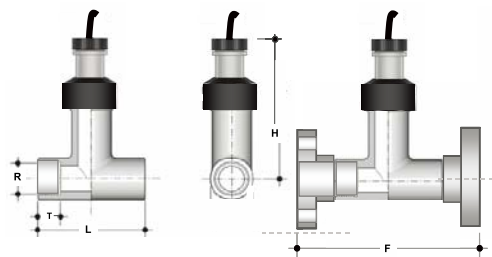
PVC		CPVC		PVC Flanged		CPVC Flanged	
VS-		CS-		VF(I/A)-		CF(I/A)-	
SIZE	Code	Sensor Size	R	T	L	H	F
1/2"	004	-S	21.54	30.58	112.0	130.5	162.2
3/4"	006	-S	26.87	30.58	112.0	130.5	170.2
1"	010	-S	33.66	30.58	96.0	130.5	159.6
1-1/4"	012	-S	42.42	34.75	115.5	131.2	185.7
1-1/2"	015	-S	48.56	37.93	128.0	134.5	204.2
2"	020	-S	60.63	41.10	145.5	136.0	228.3
2-1/2"	025	-S	73.38	47.45	171.0	138.2	266.4
3"	030	-S	89.31	50.63	196.0	147.2	297.8
4"	040	-S	114.76	60.15	237.5	164.3	359.7

EX: Chose (1)CPVC, Intubation socket, SIZE "1" Code: CS-010-S

(2)PVC, ANSI Flanged Coupler, SIZE "3" Code: VFA-030-S

Flange Specification: FJ:JIS 10K & FA: ANSI 150#, Please choose the code when ordering, Insertion port size (R) according to standard ASTM SCH80

P3



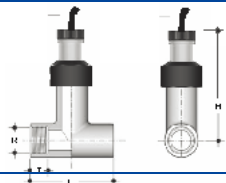
Metal tee (P2)

Material / Code (Ends Female Thread) Unit:mm

SUS316	PT	SUS316	NPT	CS		PT	CS		NPT
PTS-		NTS-		PTC-		NTC-			
SIZE	Code	Sensor Size	R	T	L	H			
1/2"	004	-S	1/2"	19	120	127.3			
3/4"	006	-S	3/4"	19	120	129.9			
1"	010	-S	1"	22.5	120	132.7			
1-1/4"	012	-S	1-1/4"	22.5	120	135.9			
1-1/2"	015	-S	1-1/2"	25	130	138.0			
2"	020	-S	2"	25	150	142.4			

EX: Chose CS Ends Female Thread PT Material, SIZE "2": Code: PTC-020-S

P2



KSFS 葉輪式流量感測器

■ 產品說明

KSFS 葉輪式流量感測器，採用 SUS 及耐腐蝕抗氧化性材質設計，穩定性好與高解析的內置磁石轉子，NPN 脈波方波可直接連接至 PLC / 工業電腦 IPC，產品維護容易，操作方便。

■ 特點

- 電子防水防塵保護等級 IP68
- 量測流速 0.3~6.0m/s

■ 應用

水處理業及飲水製造業 化學品製造輸送過程 UF / RO 製成設備
熱交換系統與冷卻水 游泳池循環系統。 水灌溉及水分配計量



多種本體材質



工業型接線盒

■ 訂貨選型資料

KSFS - 感測器電壓		本體材質		O 環材質		感測器尺寸		帽蓋材質		電氣接線	
CODE	感測器電壓	CODE	本體材質	CODE	O 環材質	CODE	感測器尺寸	CODE	帽蓋材質	CODE	電氣接線
A	5Vdc	C	CPVC	E	EPDM 合成橡膠 (Standard)	S	短 127mm	N	塑膠帽蓋	010	指定線長:10~150M (010~150)
B	12~30Vdc	P	PTFE	V	Viton 氟素橡膠	L	長 185mm	Y	不鏽鋼帽蓋	M12	M12/4PIN 接頭
		S	SUS316L	需耐酸鹼及耐油環境下,建議使用 Viton 氟素橡膠				流體溫度高於 80°C, 或使用壓力大於 6 bar 時, 請選用不鏽鋼帽蓋		TBP	塑膠接線盒
								TBA	鋁合金接線盒	TBS	SUS316 接線盒

■ 安裝座選型規格 (安裝座為選購品需另外計價)

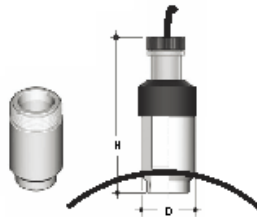
■ 焊接短管 (圖 1)

形式材質/代碼 單位:mm

SUS316	CS	PVC	PP	CPVC	PVDF
SW-	BW-	VW-	PW-	CW-	DW-
SIZE	代碼	感測器尺寸	H	D	
2"~8"	020~080	-S (127mm)	127	43	
10"~16"	100~160	-L (185mm)	185	43	

選用舉例:選用 PVC 材質,尺寸 2";選碼為:VW-020-S

圖 1



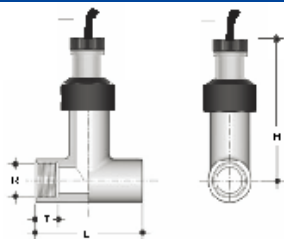
■ 金屬三通管 (圖 2)

形式材質/代碼 單位:mm

SUS316 內牙 PT		SUS316 內牙 NPT		CS 內牙 PT		CS 內牙 NPT	
PTS-		NTS-		PTC-		NTC-	
SIZE	代碼	感測器尺寸	R	T	L	H	
1/2"	004	-S	1/2"	19	120	127.3	
3/4"	006	-S	3/4"	19	120	129.9	
1"	010	-S	1"	22.5	120	132.7	
1-1/4"	012	-S	1-1/4"	22.5	120	135.9	
1-1/2"	015	-S	1-1/2"	25	130	138.0	
2"	020	-S	2"	25	150	142.4	

選用舉例:選用 CS 內牙 PT 材質,尺寸 2";選碼為:PTC-020-S

圖 2



■ 塑膠三通管 (圖 3)

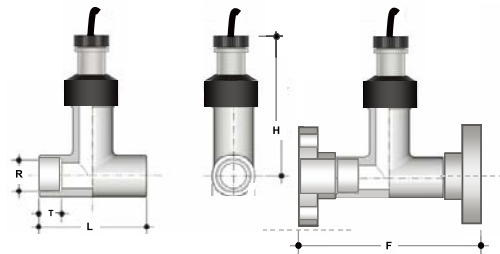
形式材質/代碼 單位:mm

PVC 插管套接		CPVC 插管套接		PVC 法蘭式續接			CPVC 法蘭式續接	
VS-		CS-		VF(I/A)-			CF(I/A)-	
SIZE	代碼	感測器尺寸	R	T	L	H	F	
1/2"	004	-S	21.54	30.58	112.0	130.5	162.2	
3/4"	006	-S	26.87	30.58	112.0	130.5	170.2	
1"	010	-S	33.66	30.58	96.0	130.5	159.6	
1-1/4"	012	-S	42.42	34.75	115.5	131.2	185.7	
1-1/2"	015	-S	48.56	37.93	128.0	134.5	204.2	
2"	020	-S	60.63	41.10	145.5	136.0	228.3	
2-1/2"	025	-S	73.38	47.45	171.0	138.2	266.4	
3"	030	-S	89.31	50.63	196.0	147.2	297.8	
4"	040	-S	114.76	60.15	237.5	164.3	359.7	

選用舉例:選用: (1)CPVC, 插管套接,尺寸 1";選碼為: CS-010-S
(2)PVC, ANSI 法蘭續接,尺寸 3";選碼為: VFA-030-S
法蘭式規格有: FJ:JIS 10K 與 FA: ANSI 150#,請於定購時選用代碼

插入口尺寸 (R) 依據 ASTM SCH80 標準

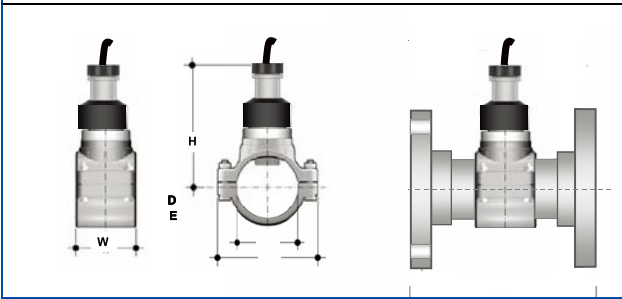
圖 3



■ Plastic Saddle / flange (P4) (Metallic material, please call us)
Material / Code Unit:mm

PP Plastic Saddle ^{#2}			PVC flange ^{#3}				
PS(V/C/D)-			PF(I/A)-				
SIZE	Code	Sensor Size	D	E	W	H	F
2"	020	-S	63.0	101.0	67.0	136.0	170.0
2-1/2"	025	-S	75.0	116.0	77.0	138.2	190.0
3"	030	-S	90.0	132.0	87.0	147.2	190.0
4"	040	-S	110.0	172.0	101.0	164.3	210.0
5" ^{#1}	050	-L	-	-	-	172.0	250.0
6"	060	-L	160.0	237.0	202.0	202.1	300.0
8"	080	-L	225.0	333.0	230.8	230.8	300.0
10" ^{#1}	100	-L	-	-	-	254.0	330.0
12" ^{#1}	120	-L	-	-	-	273.0	380.0

#1: Short tube produced by welding plus an additional the flange
#2: Plastic Saddle:PVC(Code:PSV) / CPVC(Code:PSC) / PVDF(Code:PSD)
#3: flange: FJ:JIS 10K & FA: ANSI 150#, Please choose the code when ordering:
EX: Chose (1): PVDF Plastic Saddle, SIZE 6": **Code: PSD-060-L**
(2): JIS flange, SIZE 12": **Code: PFJ-120-L**



■ TECHNICAL SPECIFICATION

Accuracy: ±0.5% F.S. (K Calibrated)@ flow $\geq 0.5\text{m/s}$
Reproducibility: ±0.5% F.S.
Working pressure: $\leq 10\text{bar}$ (PVC/CPVC), @ 20°C of water
 $\leq 16\text{bar}$ (CS/SUS), @ 20°C of water
Pressure loss: < 0.1Mpa
Medium Temp.: CPVC-Max. 85°C
 PTFE & SUS316L-Max.100°C
Flow rate range: 0.3~6.0 m/s
Measurement type: Hall effect devices, two-way measure
Output signal: NPN Square wave · 5Vp or 12~30V
Length: 3 core wire isolation AWG #22,PVC
 10M(Stander)~150M(Option)
Power Supply: <10 μA @ DC 5V or DC 12~30V Works with PLC/IPC;
Safety Certification CE ; IEC61000
Working environment
Operating Temp.: 0~50 °C
Relative humidity: 0~90 %RH
Storage Temp.: -20~70 °C
Enclosure: IP68 · Internal epoxy filling
Vibration Testing: 1~800Hz, 3.175g2/Hz

■ Mechanical

Main material: CPVC、PTFE or SUS316L
Rotor material: 6 rotor: ECTFE fluorine plastic
 Ceramic High density ceramic
Shaft Bearing Material
O Ring material: EPDM or Viton
Plunger for Cap Material ABS fireproof material (UL 94V-0) or stainless steel
 When the fluid temperature above 80 °C, or use a pressure greater than 6 bar, please Optional stainless steel Plunger for Cap
Electrical Connection: PVC coated material, Three-wire AWG # 22 wire isolation
 M12 x 4 Pins Euro connector
 Engineering plastics / aluminum / SUS316 industrial round junction box
Weight: About 200g(Not contain weight of cable)
Dimensions: 130mm(L)* $\varnothing 26.70\text{mm}$, Bolt head $\varnothing 38.00\text{mm}$

■ List of diameter and flow

Unit:M³/Hr ; min flow @0.5m/s ; max flow @6.0m/s ; accuracy $\pm 0.5\%$ FS

Caliber	最小~最大流量	管徑	最小~最大流量
1/2"	0.32~3.82	1-1/2"	2.26~27.1
3/4"	0.56~6.78	2"	3.54~42.4
1"	0.88~10.6	2-1/2"	5.98~71.4
1-1/4"	1.44~17.4	3"	9.04~108.6
4"	14.1~169.8	10"	88.4~1060.2
5"	22.1~265.2	12"	127.2~1527.1
6"	31.8~381.6	14"	173.2~2078.4
8"	56.6~678.6	16"	226.1~2714.4

■ K value parameter table

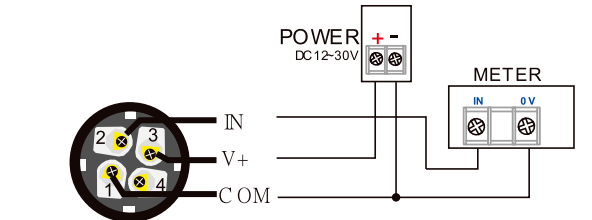
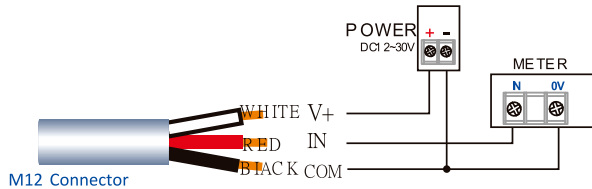
If the actual discrepancy, the actual measurement methods available to correct K value.

Tee T-mount K value table			
Caliber	PVC	PP	SUS
1/2"	273.40	246.37	-
3/4"	164.94	156.67	-
1"	85.08	83.07	80.63
1-1/2"	59.54	58.45	51.29

Saddle mount - plastic pipe K value table			
Caliber	PVC SCH80	南亞 PVC	PP/ PN10
2"	41.21	37.41	36.83
2-1/2"	25.47	19.19	22.85
3"	14.44	12.55	14.11
4"	7.74	7.15	8.83
6"	3.19	3.07	4.50
8"	1.59	1.56	2.19

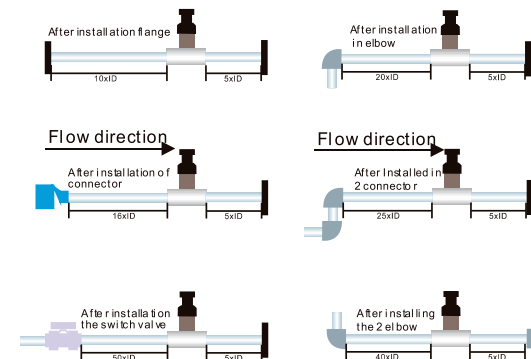
■ DIMENSIONS

Direct outlet



V+ (white): positive input, Power Supply: DC 12 ~ 30V or 5Vdc, IN (red): Signal Input, COM (black): negative signal input and the negative side of the point

■ Installation diagram



ID: indicates tube diameter, 10XID indicates to be ten times the diameter of the far distance
 Example: 2 "diameter = 5.08 cm, 10XID = 10 * 5.08 = 50.8 cm

■ 塑膠鞍座/法蘭(圖 4) (金屬材質請致電本公司備詢)

形式材質/代碼 單位:mm

PP 鞍座 ^{註2}			PVC 法蘭接續 ^{註3}				
PS(V/C/D)-			PF(J/A)-				
SIZE	代碼	感測器尺寸	D	E	W	H	F
2"	020	-S	63.0	101.0	67.0	136.0	170.0
2-1/2"	025	-S	75.0	116.0	77.0	138.2	190.0
3"	030	-S	90.0	132.0	87.0	147.2	190.0
4"	040	-S	110.0	172.0	101.0	164.3	210.0
5" ^{註1}	050	-L	-	-	-	172.0	250.0
6"	060	-L	160.0	237.0	202.0	202.1	300.0
8"	080	-L	225.0	333.0	230.8	230.8	300.0
10" ^{註1}	100	-L	-	-	-	254.0	330.0
12" ^{註1}	120	-L	-	-	-	273.0	380.0

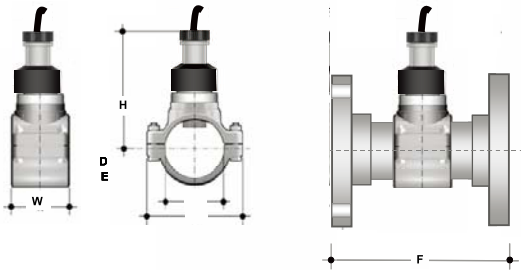
註 1:以焊短管製做,另加法蘭

註 2:鞍座插入部可選用:PVC(代碼 PSV) / CPVC(代碼 PSC) / PVDF(代碼 PSD)

註 3:法蘭式規格有: FJ:JIS 10K 與 FA: ANSI 150#,請於定購時選用代碼:

選用舉例:(1)選用 PVDF 鞍座,尺寸 6":選碼為:PSD-060-L
(2)選用 JIS 法蘭接續,尺寸 12":選碼為:PFJ-120-L

圖 4



技術規格

精確度:	±0.5% F.S. (經 K 值校正後)@流速 $V \geq 0.5\text{m/s}$
再現性:	±0.5% F.S.
工作壓力:	≤ 10bar (PVC/CPVC 管線系統), @ 20°C 水 ≤ 16bar (CS/SUS 管線系統), @ 20°C 水
壓力損失:	< 0.1Mpa
流體溫度:	CPVC 本體—可至 85°C PTFE & SUS316L 本體—可至 100°C
流速範圍:	0.3~6.0 m/s
量測型式:	Hall 效應元件,雙向可量測
輸出訊號:	NPN 方波 · 5Vp 或 12~30V 視需求選用
出線:	3 芯隔離導線 AWG #22,PVC 材質包裹 10M(標準)~150M(選購)
工作電源:	<10μA @ DC 5V 或 DC 12~30V 可搭配 PLC/IPC;
安規認證:	CE 認證 ; IEC61000

工作環境

工作環境溫度:	0~50 °C
工作環境濕度:	0~90 %RH
儲存環境溫度:	-20~70 °C
防護等級:	IP68 · 內部環氧樹脂充填
震動測試:	1~800Hz, 3.175g2/Hz

機構材質

本體材質:	CPVC · PTFE · SUS316L 三種可選
轉子材質:	6 瓣轉子:ECTFE 氟系塑膠
軸心軸承材質:	Ceramic 高密度陶瓷
O 環密封材質:	EPDM · Viton 二種可選
帽蓋材質:	ABS 防火材料 (UL 94V-0) 或 不鏽鋼 流體溫度高於 80°C · 或使用壓力大於 6 bar 時 · 請選用不鏽鋼帽蓋
電氣連接:	PVC 材質包裹, 3 線式 AWG #22 隔離導線 M12 x 4 Pins 歐規接頭 工程塑膠/鋁合金/SUS316 工業級圓頭接線盒 約 200g(不含線重)
重量:	130mm(L)* Ø26.70mm, 柱頭 Ø 38.00mm
尺寸:	

管徑 VS 流量一覽錶

單位:M³/Hr ; 最小流量@0.5m/s ; 最大流量@6.0m/s ; 精度±0.5%FS

管徑	最小~最大流量	管徑	最小~最大流量
1/2"	0.32~3.82	1-1/2"	2.26~27.1
3/4"	0.56~6.78	2"	3.54~42.4
1"	0.88~10.6	2-1/2"	5.98~71.4
1-1/4"	1.44~17.4	3"	9.04~108.6
4"	14.1~169.8	10"	88.4~1060.2
5"	22.1~265.2	12"	127.2~1527.1
6"	31.8~381.6	14"	173.2~2078.4
8"	56.6~678.6	16"	226.1~2714.4

K 值參考錶

因為現場安裝環境與本公司工廠實測配管不盡相同,以上 K 值為出廠標定參考值,如與實際有出入,可用實際測量方式來修正 K 值。

◎ K 修正值=K 儀錶值 x Q 儀錶測量值 / Q 實際測量值

三通 T 型安裝座 K 值錶			
管稱	PVC	PP	SUS
1/2"	273.40	246.37	-
3/4"	164.94	156.67	-
1"	85.08	83.07	80.63
1-1/2"	59.54	58.45	51.29

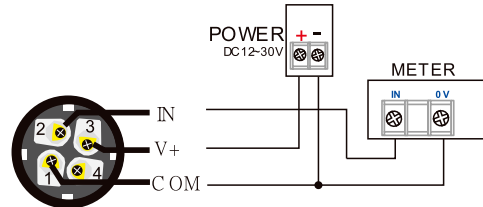
鞍型安裝座-塑膠管材 K 值錶			
管稱	PVC SCH80	南亞 PVC	PP/PN10
2"	41.21	37.41	36.83
2-1/2"	25.47	19.19	22.85
3"	14.44	12.55	14.11
4"	7.74	7.15	8.83
6"	3.19	3.07	4.50
8"	1.59	1.56	2.19

接線方式

直接出線

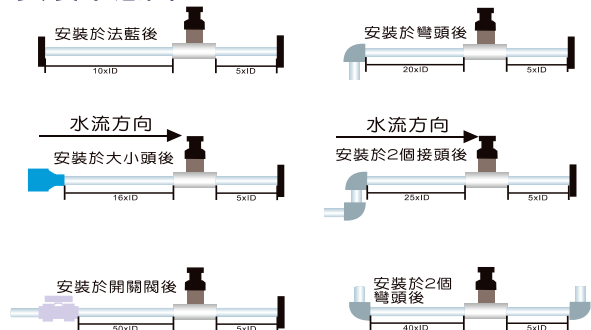


M12 接頭



V+(白線):正電源輸入 · 工作電源:DC 12~30V 或 5Vdc, (依選型而定), IN(紅線):訊號輸入, COM(黑線):負電輸入與訊號負端共點

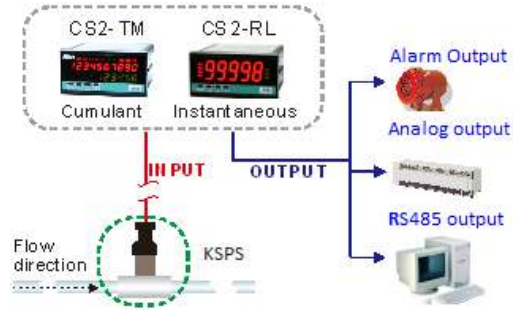
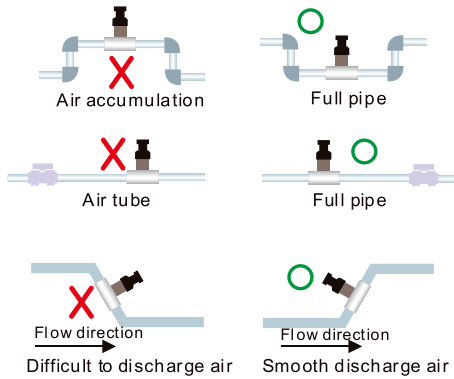
安裝示意圖



ID:錶示管內徑, 10XID 錶示距離要十倍管徑的距離
例:2"管徑=5.08 cm, 10XID=10*5.08=50.8 cm

Installation Considerations

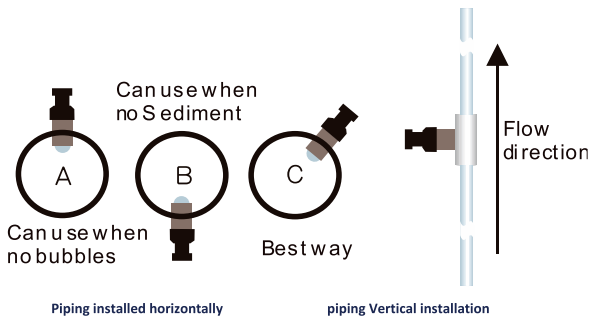
KSFS Paddle Wheel Flow Sensor with professional Meter, CS2-TM(PLUSE), Instantaneous / accumulated value display / control meter CS2-RL, Instantaneous value display / control table



Others not recommended to install position:

- not recommended to install at the outlet of the pump (from below 50xD) susceptible to turbulence and can not detect
- not recommended to install prone to water hammer in the pipeline, likely to cause damage to the rotor
- not recommended to install piping water from top downward, it is easy not full pipe caused the error
- not recommended to install on a reciprocating pneumatic pump system because fluid can not detect fluctuations

Mounting angle



Horizontal pipeline installation:

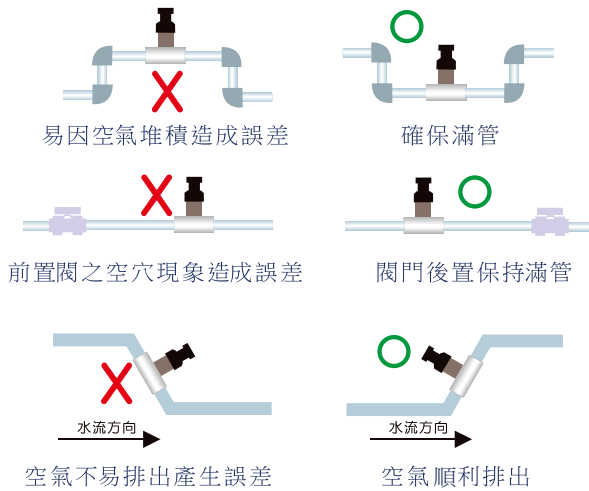
- A: Installation no bubbles in the fluid line
- B: Installed in a fluid conduit no precipitate
- C: Generally the best installation angle

Vertical piping installation:

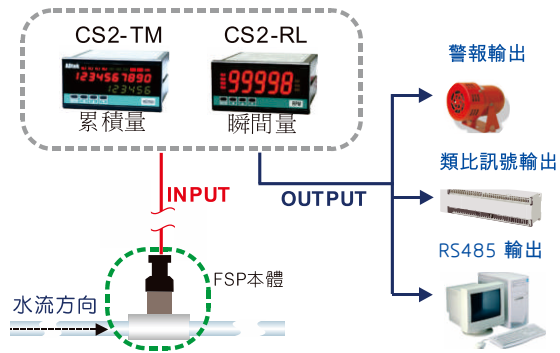
- Can be installed on any angle, but it is recommended by the upward fluid flow (as shown)

Peripheral product and applications

■ 安裝注意



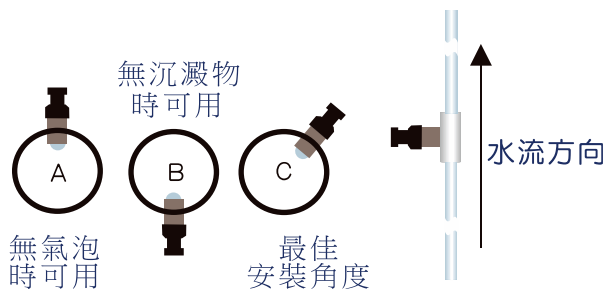
KSFS 葉輪式流量感測器可搭配本公司專業電錶, CS2-TM(PLUSE),瞬間/累積值顯示/控制錶,或 CS2-RL,瞬間值顯示/控制錶



■ 其他不建議安裝的位置:

- 不建議安裝於泵浦出口處(距離低於 50xD)容易因擾流而制無法正常偵測
- 不建議安裝於容易產生水槌的管路上, 容易造成轉子損壞
- 不建議安裝於水流由上往下的管路上, 容易因不滿管造成誤差
- 不建議安裝於往復式氣動泵浦系統上, 因為波動式流體無法正常偵測

■ 安裝角度



水平管路安裝角度

垂直管路安裝角度

水平管路安裝:

- 圖 A:可安裝於無氣泡產生的流體管路內
- 圖 B:可安裝於無沉澱物的流體管路內
- 圖 C:一般最佳安裝角度

垂直管路安裝:

可安裝於任何角度,但建議流體流向應由下往上(如圖所示)

■ 周邊產品與應用

KSPT PRESSURE Transducers

FEATURE

- Measurement of gauge pressure, Compound pressure or absolutely pressure.
- Modularity of electrical and hydraulic connections
- Highly resistant to process conditions
- Low cost & high stability

APPLICATION

pneumatic compressors, HVAC, hydraulic systems, pump monitoring, water treatment and control systems



TECHNICAL DATA

Sensing element:	Ceramic sensor with o-ring packing.
Measurement Range:	Compound pressure: -1 ~ 0 to -1 ~ 5bar Gauge pressure: 0 to 200bar Absolute pressure: 0~1/~2 bar
Overload:	2 x measuring range;
Rupture Pressure:	3 x measuring range
Output Signal:	2 wired: 4~20mA; 3 wired: 0~10V or 0(1)~5V
Accuracy:	Linearity: $\leq \pm 0.5\%$ FS Hysteresis: $\leq \pm 0.2\%$ FS Zero point at voltage output: < 50 mV
Zero thermal drift:	$\leq \pm 0.012\%$ FS/°C
Zero Adjustment:	$\leq 10\%$ of F.S.
Span Adjustment:	$\leq 10\%$ of F.S.
Response Time:	≤ 5 msec
Load Cycle:	≤ 50 Hz

Power

Power Supply:	18 ~ 36 Vdc for 2 wire Loop powered 24 Vdc for 3 wired powered
Maximum Input Current:	≤ 15 mA
Load Impedance:	$\leq 1000 \Omega$
Current Consumption:	≤ 20 mA

Environmental

Operating temperature:	Standard: -10°C ~ 85°C Option: -25°C ~ 150°C
Operating relative humidity:	$\leq 95\%$ non-condensing
Temperature coefficient:	≤ 100 PPM/°C (0~55 °C)
Storage humidity:	0~70% RH (non-condensing)
Enclosure:	IP65 (DIN connector)
Vibration resistance:	1.5 mm (10~55 Hz), 20g

Electrical safety

Dielectric Strength:	AC 2.0KV for 1 min between Output / Metal parts
Insulation:	$\geq 100M \text{ ohm}$
EMC:	EN50082-1, EN50082-2 EN50081-1, EN50081-2

Mechanical

Materials of Housing:	Standard: Stainless Steel 304 Option: Stainless Steel 316
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Materials of Wetted parts:

Ceramic with o-ring packing/ Innox 1.4305
Outside thread: NPT 1/4", 3/8", 1/2";
PT 1/4", 3/8", 1/2"; PF(G) 1/4", 3/8", 1/2"
DIN connector 43650-A
About 280 g

Electrical Connection:

ASSEORY

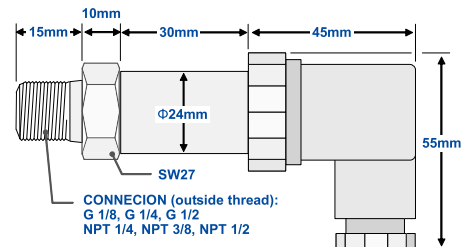
2 WIRED FIELD INDICATOR



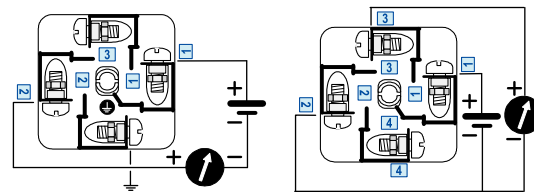
Please refer to the page EP-01 for detail specification.

Display:	0~9999(Programmable)
Alarm Output(option):	2 points; Open collect
Connection:	DIN connector 43650-A
Power Drift:	$\leq 4.5V, 3mA$
FILTER	Model Number: PS FILTER- Please contact with our sales dep.

DIMENSIONS



CONNECTION



2 wired connection

3 wired connection

ORDERING INFORMATION

KS	Wetted Parts	Measuring Range	Output Range	Hydraulic Connectio	Material of O-ring						
CODE	WETTED PARTS	CODE	RANGE	CODE	RANGE	CODE	OUTPUT	CODE	CONNECT	CODE	MATERIAL O RING
PT	Ceramics sensor with O-ring packing	001	0~1 Bar	400	0~400 Bar	3	0~5V(3-wired)	N2	1/4"	1	FPM (Fluororubber) (standard)
		002	0~2 Bar	V10	-1~0 Bar	4	0~10V(3-wired)	N3	3/8"		
		006	0~6 Bar	B15	-1~5 Bar	5	1~5V(3-wired)	N4	1/2"		
		010	0~10 Bar	A01	Absolutely 0~1 Bar	D	4~20mA(2-wire)	P2	1/4" PT		
		016	0~16 Bar		Absolutely 0~2 Bar			P3	3/8" PT		
		020	0~20 Bar	A02	Absolutely 0~2 Bar			P4	1/2" PT		
		040	0~40 Bar					G2	1/4" PF		
		100	0~100					G3	3/8" PF		
		250	0~250					G4	1/2" PF		
								O	Specify		

* If the range is over 200bar, It's strong recommend to use diaphragm type(model PU or PD).

KSPT 壓力傳送器

■ 特點

- 量測錶 壓, 複合壓力或絕對壓力。
- 電力與液壓的模組化連接。
- 高抗性處理過程。
- 低成本與高穩定性。

■ 應用

氣動壓縮機, 空調系統, 液壓系統, 幫浦監視, 污水處理控制。



KSPT PRESSURE

■ 技術規格

感測元件:	陶瓷感測器與 O 型迫緊環
量測範圍:	複合壓力: -1 ~ 0 to -1 ~ 5 bar 錶 壓力: 0 ~ 200 bar 絕對壓力: 0 ~ 1 ~ 2 bar
過載範圍:	2 倍量測範圍
爆裂壓力:	3 倍量測範圍
輸出信號:	2 線式: 4~20mA; 3 線式: 0~10V 或 0(1)~5V
精度:	線性: $\leq \pm 0.5\%$ FS 遲滯: $\leq \pm 0.2\%$ FS 零點電壓輸出: < 50 mV
零點溫度飄移:	$\leq \pm 0.012\%$ FS/°C
零點調整:	$\leq 10\%$ of F.S.
滿刻度調整:	$\leq 10\%$ of F.S.
反應時間:	≤ 5 msec
負載振動頻率:	≤ 50 Hz

感測部材料: 陶瓷感測器與 O 型迫緊環/ Inox 1.4305
 高壓連接: 外螺牙: NPT 1/4", 3/8", 1/2";
 PT 1/4", 3/8", 1/2"; PF(G) 1/4", 3/8", 1/2"
 DIN 43650-A 接頭
 約 280 克

電氣連接:
 重量:

■ 附件

2 線式現場型顯示器

請詳閱 EP-01 頁的詳細規範

顯示: 0~9999(可設定)
 警報輸出(選購): 2 輸出點; 開集極電路
 安裝方式: DIN 43650-A 接頭
 電力消耗: $\leq 4.5V, 3mA$
 過濾器: 型號: PS FILTER
 請洽詢本公司業務部門。

■ 工作電源

工作電源: 2 線式迴路電源: 18 ~ 36 Vdc
 3 線式電源: 24 Vdc

最大輸入電流: ≤ 15 mA
 負載阻抗: $\leq 1000 \Omega$
 消耗電流: ≤ 20 mA

■ 工作環境

工作溫度: 標準: -10°C ~ 85°C
 選購: -25°C ~ 150°C

工作濕度: $\leq 95\%$ 不結露
 溫度係數: ≤ 100 PPM/°C (0~55°C)
 儲存溼度: 0~75% RH(不結露)
 封裝: IP65 (DIN 接頭)
 抗振性: 1.5 mm (10~55 Hz), 20g

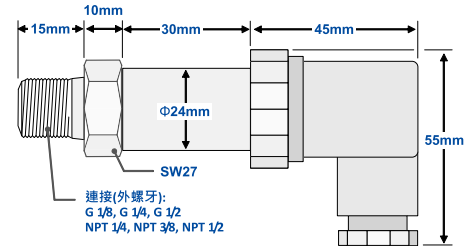
■ 安規

絕緣強度: 耐壓交流 2000 伏 · 持續 1 分鐘。
 輸出/金屬部 之間。
 $\geq 100M \text{ ohm}$
 EMC: EN50082-1, EN50082-2
 EN50081-1, EN50081-2

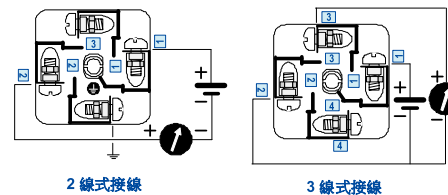
■ 機械結構

外殼材質: 標準: 不鏽鋼 304
 選購: 不鏽鋼 316

■ 尺寸外觀



■ 接線圖



■ 規格選擇表

KS	感測部	量測範圍	輸出範圍	安裝螺牙	O 型環材質				
CODE	感測部	CODE	量測範圍	CODE	輸出範圍	CODE	安裝螺牙	CODE	O 型環材質
PT	陶瓷感測器與 O 型迫緊環	001 0~1 Bar	400 0~400 Bar	3 0~5V(3 線式)	N2 1/4"	1	FPM 氟橡膠 (standard)		
		002 0~2 Bar	V10 -1~0 Bar	4 0~10V(3 線式)	N3 3/8"				
		006 0~6 Bar	B15 -1~5 Bar	5 1~5V(3 線式)	N4 1/2"				
		010 0~10 Bar	A01 絕對值 0~1 Bar	D 4~20mA(2 線式)	P2 1/4" PT				
		016 0~16 Bar	A02 絕對值 0~2 Bar		P3 3/8" PT				
		020 0~20 Bar			P4 1/2" PT				
		040 0~40 Bar			G2 1/4" PF				
		100 0~100			G3 3/8" PF				
		250 0~250			G4 1/2" PF				
					O 指定螺牙				

* 若量測範圍超過 200bar, 請選用隔膜式型號(PU / PD).

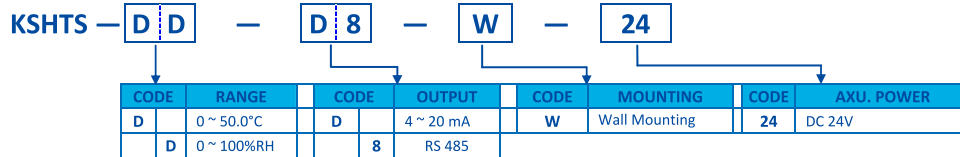
KSHTS HUMIDITY & TEMPERATURE

FEATURE

- Accuracy: Temperature : $\pm 0.3^{\circ}\text{C}$; Humidity : $\pm 2\%$
- Dual display for $0.0\sim 50.0^{\circ}\text{C}$ and $0\sim 100\%\text{RH}$
- RS 485 Modbus RTU mode in standard
- Dual current output for Temperature & Humidity
- Low output ripple
- High stability & low cost
- CE approved



ORDER INFORMATION



SPECIFICATION

Measuring Range	Output	Load
Temperature $0\sim 50.0$	$4\sim 20\text{ mA}$ (4-Wires)	$\leq 500\Omega$
Humidity $0\sim 100$	$4\sim 20\text{ mA}$ (4-Wires)	
	RS 485 Modbus RTU Mode	

Accuracy (at 25°C):

Temperature: $\leq \pm 0.3^{\circ}\text{C}$ at $25\pm 20^{\circ}\text{C}$;
Humidity: $\leq \pm 2\%\text{RH}$ between $10\sim 90\%\text{RH}$

Sensing Elements:

Temperature: RTD Pt100 Ω , DIN43760

Humidity : Thin-film capacitor

Response time:

Temperature: $\leq 10\text{ sec.}$ (still air)

Humidity: $\leq 4\text{ sec.}$ (still air)

Span adjustment:

Digital compensation

Zero adjustment:

Digital compensation

Display

LCD:

123x123 pixel LCD with backlight
Temperature reading: $0.0\sim 50.0^{\circ}\text{C}$
Humidity reading: $0\sim 100\%\text{RH}$
Modbus Device Group: 1~4
Modbus Device no.:01~64 (binary encoding)
Communication port status: TX/RX

Analogue output(option)

Resolution:

12 bits AD converter

Output ripple:

$\leq 0.25\%$ of F.S.

Response time:

$\leq 200\text{ m-sec.}$ (10~90% of input)

Output range:

$4\sim 20\text{ mA}$, max load 500Ω

RS 485 communication

Device No:

1~255, Group (1~4) * Device no(1~64)

Baud Rate:

9600

Parity:

N, 8, 1

Power

Power Supply:

DC $24\text{V}\pm 10\%$

Power consumption:

$\leq 2\text{W}$

Environmental

Operating temperature:

$0\sim 50^{\circ}\text{C}$

Operating relative humidity:

$0\sim 100\%\text{RH}$, non-condensing

Temperature coefficient:

$\leq 0.008\%\text{RH}/^{\circ}\text{C}$ (Effect at $0\%\text{RH}$)
 $\leq 0.008/^{\circ}\text{C}$ (Effect at 28°C)

Storage temperature:

$-10\sim 70^{\circ}\text{C}$

Enclosure:

IP30

Electrical safety

EMC:

EN61326

Safety:

EN61010

Mechanical

Dimensions:

120mm(W) x 119mm(H) x 22mm(D)

Housing:

ABS white, fire-protection (UL 94V-0)

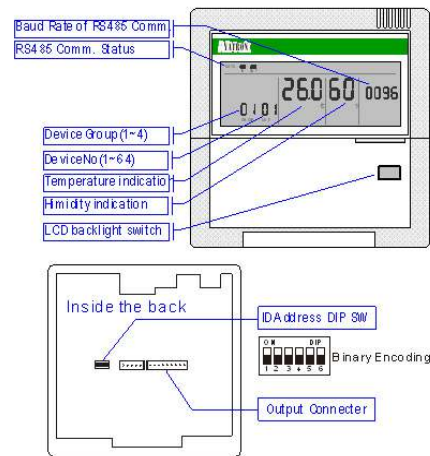
Mounting:

Wall mounting with loose flange

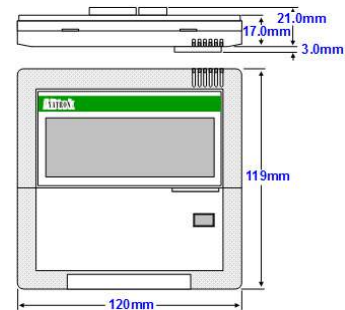
Connection:

9 PIN Plug in connector with wires

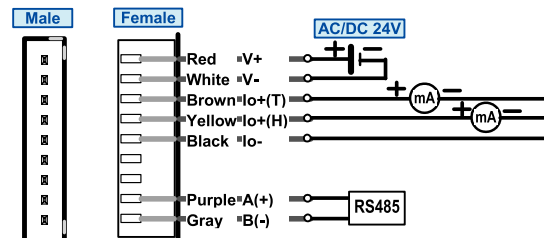
FRONT PANEL



DIMENSIONS



CONNECTION DIAGRAM



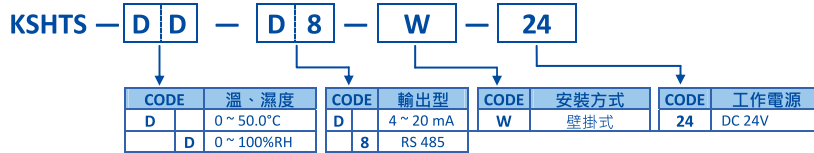
KSHTS 溫溼度感測器

■特點

- 精度: 溫度: $\pm 0.3^{\circ}\text{C}$; 濕度: $\pm 2\% \text{RH}$
- 雙顯示範圍: 溫度 $0.0 \sim 50.0^{\circ}\text{C}$; 濕度 $0 \sim 100\% \text{RH}$
- 具有標準化 RS 485 Modbus RTU Mode 輸出。
- 溫度與濕度雙通道電流輸出。
- 低輸出漣波。
- 高穩定性與低成本。
- 通過 CE 認證。



■規格選擇表



■技術規格

量測範圍	輸出	負載阻抗
溫度	$0 \sim 50.0^{\circ}\text{C}$	$4 \sim 20 \text{ mA}$ (4 線式)
濕度	$0 \sim 100$	$4 \sim 20 \text{ mA}$ (4 線式)
		$\leq 500\Omega$
		RS 485 Modbus RTU

精度 (在 25°C): 溫度: $\leq \pm 0.3^{\circ}\text{C}$ 在 $25 \pm 20^{\circ}\text{C}$;
 溼度: $\leq \pm 2\% \text{RH}$ 在 $10 \sim 90\% \text{RH}$ 之間
 $\leq \pm 4\% \text{RH}$ 在 $0 \sim 10\%$ 和 $90 \sim 100\%$
 感測元件: 溫度: RTD Pt100 Ω , DIN43760
 溼度: 薄膜電容
 反應時間: 溫度: ≤ 10 秒.(靜止空氣中)
 溼度: ≤ 4 秒.(靜止空氣中)
 滿刻度調整: 數位補償
 歸零點調整: 數位補償
 顯示: 123x123 像素 · 背光 LCD
 LCD: 溫度顯示值: $0.0 \sim 50.0^{\circ}\text{C}$
 溼度顯示值: $0 \sim 99\% \text{RH}$
 Modbus 設備群組: 1~4
 Modbus 設備號碼: 01~64 (指撥二進位編
 通訊埠狀態: TX/RX

■類比輸出(選購)

解析度: 12 bits AD 轉換器
 輸出漣波: $\leq 0.25\%$ of F.S.
 反應時間: $\leq 200 \text{ m-sec}$ (輸出範圍從 $10 \sim 90\%$)
 輸出範圍: $4 \sim 20 \text{ mAdc}$, 最大負載 500Ω

■RS 485 通訊

設備號碼: 1~255, 群組 (1~4) * 設備 ID(1~64)
 Baud Rate: 9600 bps
 同位元: N, 8, 1

■電源

工作電源: DC $24\text{V} \pm 10\%$
 功率消耗: $\leq 2\text{W}$

■工作環境

工作溫度: $0 \sim 50^{\circ}\text{C}$
 工作相對濕度: $0 \sim 100\% \text{RH}$, 不結露
 溫度係數: $\leq 0.008\% \text{RH}/^{\circ}\text{C}$ (在 $0\% \text{RH}$ 的影響)
 $\leq 0.008/^{\circ}\text{C}$ (在 28°C 的影響)

儲存溫度: $-10 \sim 70^{\circ}\text{C}$
 保護等級: 外殼 IP30

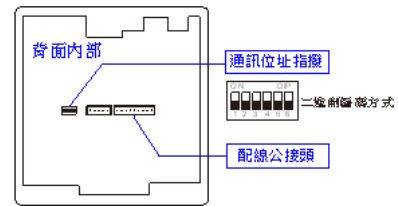
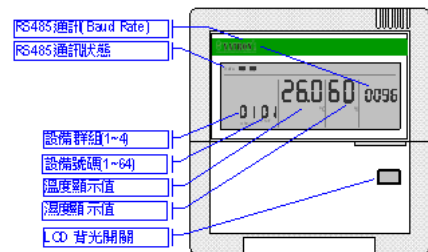
■電性安規

EMC: EN61326
 安規: EN61010

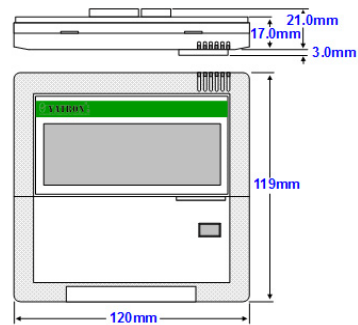
■機械結構

外觀尺寸: 120mm(寬) x 119mm(高) x 22mm(深)
 外殼: 白色 ABS, 耐燃材質 (UL 94V-0)
 安裝方式: 壁掛式安裝
 連接: 9 PIN 導線插座
 重量: 約 200 克

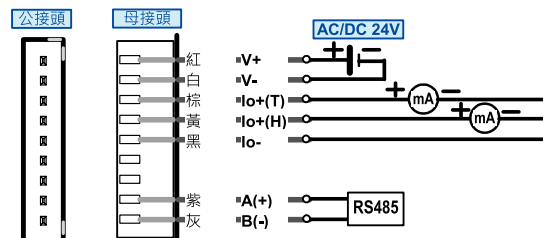
■面板



■尺寸外觀



■接線圖



KSHTT TEMPERATURE & HUMIDITY TRANSMITTER

KSHTT temp&Humi

■ PRODUCT

KSHTT series, new type of temperature & humidity sensor, with 4~20mA output function · LCD display screen and RS485 communication port. Multiple types to fulfill various needs, selectable temperature or humidity or temperature & humidity output. Buttons within wiring box for field adjustment of output range, response time, inaccuracy correction and communication parameters. For different field condition and space, KSHTT series transmitters are designed in 4 types W(wall mounting), H(Pipe mounting_H), V(Pipe mounting_V) and S(Pipe mounting_S).

■ FEATURES

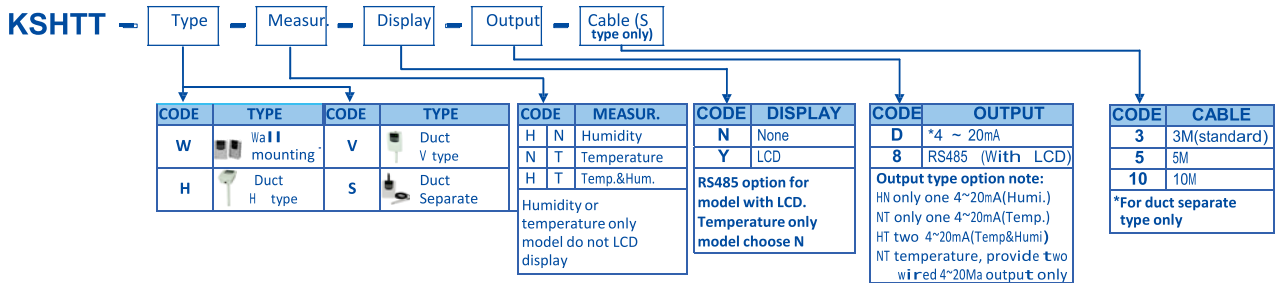
- Two 4-20mA outputs or RS 485(Modbus RTU Mode) communication port.
- Option LCD display function
- 4 selectable temperature range and output 0~50°C · -50~+50°C · 0~100°C or Free range(-30/0~50/~100°C)
- Adjustment of temperature, humidity value and analogue output hi/low limit by button setting.
- Temperature and humidity analogue output response time setting 1~10 second.



■ APPLICATIONS

Building ventilation, computer room, agriculture, laboratory, hospital, product warehouse etc monitoring system.

■ ORDERING INFORMATION



■ SPECIFICATIONS

Measure		Baud rate	9600 or 19200 selectable	
Range	-20~100°C Selectable 3 range by button or PCB jumper. ; 0.0~99.9%RH	Parity	N,8,1 N,8,2 O,8,1 E,8,1 selectable (8 data bit,1 or 2 stop bit)	
Sensing element	SHT11 [®] , Epoxy	Power		
Temp.	band-gap sensor;Drift/annual:< 0.04°C/year;In HTP-X-NT-X-N-X, temperature only,temperature sensor by LM35(National semiconductor),	Power supply	16~30Vdc	
Humi.	capacitive sensor element · Drift/annual : < 0.5%RH/year	Consumption	6V A (With LCD display and 2 sets of 4~20mA output)	
Accuracy	Temp. ≤±0.5°C @25°C / ≤±1.2°C (0~50°C) ; Refer to characteristic graph	Environment		
Humi.	≤±3%RH(20~80%) / ±4%RH(0~10%,90~100%);Refer to characteristic graph	Temperature	5~50°C	
Response time	Temp. Condition 30s (Still air) / 5s (Duct air speed 3m/s), 63%, 25°C	Humidity	≤ 100% RH, non condensing	
Hum.	Condition 30s (Still air) / 4s (Duct air speed 3m/s) , 63%, 25°C	Pressure	1 Atmosphere(760mmHg)	
Adjustment	Sensing element:Factory only;Transmitter:By RS485 or button adjust	Temp. Coeff.	≤ 100ppm	
Display		Storage	-20~+70°C	
LCD	Grey · 8.0mm height	Enclosure	IP54	IP65
Display	Setting by button(-20~100°C) within temperature range · select °C / °F ;	Size		
measure	Model with no LCD,adjust range by jumper on PCB 0~50°C, -50~+50°C	Installation	Wall	Mounting
temperature	0~100°C · Free range(low: -30~0°C · high: ~ +50~+100°C) ;	Type (mm)	Duct H	Duct V
Display Humi.	0.0~99.9%RH		Separate	
Analog output		Casing	85(W) x 120(H) x 30(D)	88(W) x 120(H) x 50(D)
Range	2 Wired 4~20mA*(Temp./Hum.)	Tube	X	Φ16 x (170+40) Provide flange
Out put riple	≤±0.5%	Cable	X	X
Load limit	4~20mA: ≤500Ω ; 0~10V: ≥1.0K ohm	Material	ABS Fire proof (UL 94V-0)	
RS485		Weight	150g	250g
Communication	Modbus RTU mode			210g
Address	1~255			

KSHTT 溫濕度傳送器

■ 產品說明

KSHTT 系列 新型溫濕度傳送器，除了傳統的類比 4~20mA 輸出功能外，又設計了 LCD 顯示螢幕 及 RS485 通訊功能。可選擇量測溫度輸出、量測溼度輸出 或 同時具備溫度及溼度量測輸出等多樣性組合，完全符合使用者多樣化需求 及 功能成本合理規劃的彈性。

接線盒內附操作按鍵，可於安裝現場設定輸出範圍、反應速度、誤差修正 及 通訊參數等。KSHTT 系列的轉換單元及感測單元設計了四種外型分別為 W 式、H 式、V 式 及 S 分離式安裝方式；方便於各種安裝方式的及空間上需求。

■ 特點

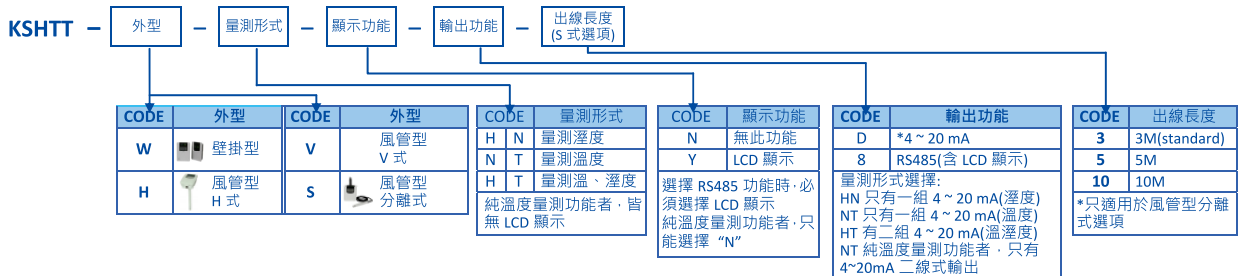
- 可選購二組 4-20 mA 輸出 或 RS485 通訊接口
- 可選購 LCD 顯示功能
- 可設定四個溫度範圍顯示及輸出 0~50°C、-50~+50°C、0~100°C 或 Free range(-30/0~50/~100°C)
- 可按鍵修正溫度、溼度顯示值 及 類比輸出上、下限值
- 可設定溫溼度類比輸出反應時間 1~10 秒

■ 應用

大樓空調、電腦機房、農業、實驗室、醫院、產品的儲存室等環境監控系統。



■ 訂貨選型資料



■ 技術規格

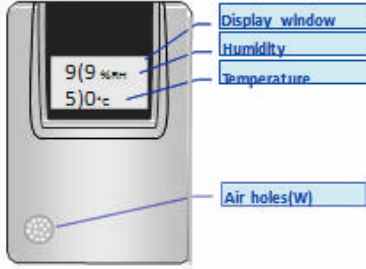
量測範圍	同位元檢查電源工作電源消耗電力	無 LCD 顯示機型：0~100, 0~50, -50~50, Free range(固定為-20~80)°C 可由短路片選擇三個範圍 LCD 顯示機型：0~100, 0~50, -50~50, Free range(選購類比輸出：Free range 預設值為-20~80；低值：-30~0，高值：50~100，可由按鍵設定。選購 RS485 輸出：Free range 無功能)
濕度		0.0~99.9%RH
感測元件	SHT11 ⁺ , Epoxy 封裝保護基板及零件	
溫度	band-gap sensor；年漂移量：< 0.04°C/year；若選擇 HTP-X-NT-X-N-X，僅量測溫度時，溫度 Sensor 為 LM35(National semiconductor 生產)	
濕度	電容式(capacitive sensor element)；年漂移量：< 0.5%RH/year	
精確度	溫度	≤±0.5°C @25°C / ≤±1.2°C (0~50°C)；請參考特性圖
濕度		≤±3%RH(20~80%) / ±4%RH(0~10%,90~100%)；請參考特性圖
響應時	溫度	30s (於靜止空氣中) / 5s (於管路風速 3m/s 時), 63%, 25°C 的狀況下
濕度		30s (於靜止空氣中) / 4s (於管路風速 3m/s 時), 63%, 25°C 的狀況下
校調及修正	感測元件：原廠數位校正；傳送轉換器：可經由 RS485 或按鍵設定修正	
顯示		
LCD		灰色·8.0mm 字高
顯示量測溫度		同量測範圍說明
顯示量測溼度		0.0~99.9%RH
類比輸出		
輸出範圍		二線式 4~20mA*2(溫度/溼度)
輸出漣波率		≤±0.5%
推動能力		4~20mA: ≤500Q; 0~10V: ≥1.0K ohm
RS485 通訊		

通訊協定	Modbus RTU mode		
通訊位置	1~255		
通訊速率	9600 或 19200 可設定		
同位元檢查	N,8,1 N,8,2 O,8,1 E,8,1 可設定(8 data bit · 1 或 2 stop bit)		
電源			
工作電源	16~30Vdc		
消耗電力	6VA(含 LCD 顯示器 及 2 組 4~20mA 輸出)		
使用環境			
溫度	-5~50°C		
濕度	≤100% RH, 不結露		
壓力	1 大氣壓(760mmHg)		
溫度係數	≤100ppm		
儲存環境	-20~+70°C		
外殼保護等	IP54	IP65	
機構尺寸			
安裝方式	壁掛型	H 型	V 型
外型尺寸			分離式
外盒	85(W) x 120(H) x 30(D)	88(W) x 120(H) x 50(D)	
量測管部	X	Φ16 x (160+40) 附固定法蘭	Φ16 x (80+40) 附固定法蘭
延長線	X	X	X 3、5、10M
材質	ABS 防火材料 (UL 94V-0)		
重量	150g	250g	210g

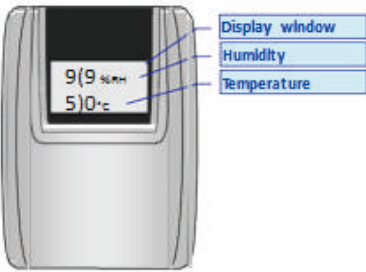
KSHTT temp&Humi

FRONT PANEL AND DISPLAY

Wall mounting(W)

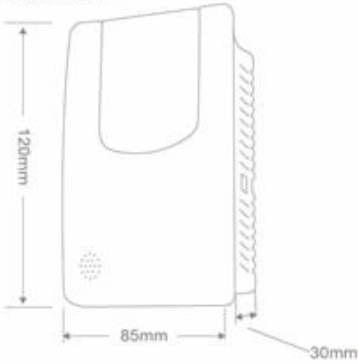


Duct type(H - V)

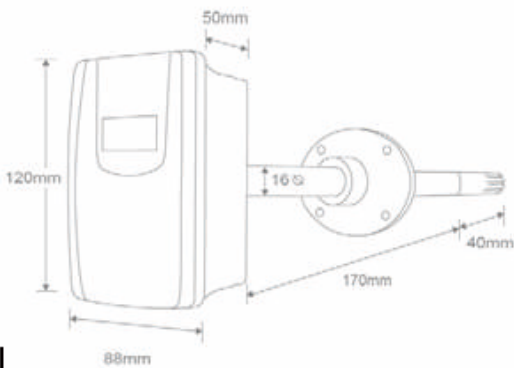


DIMENSION

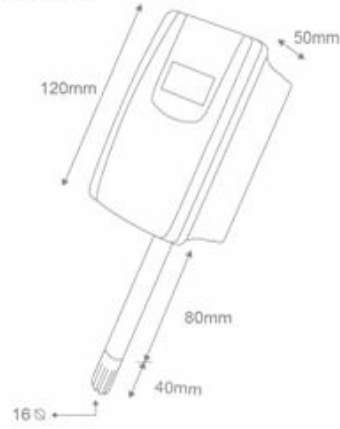
Wall mounting (W)



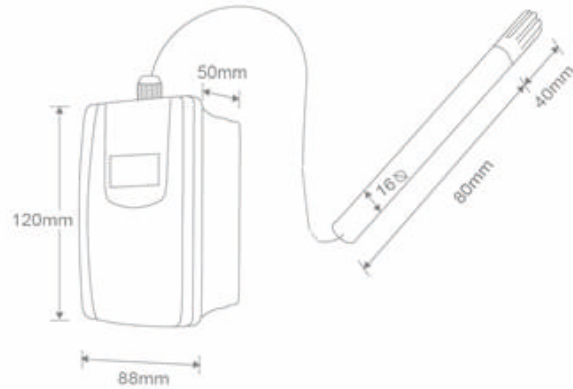
Duct type (H)



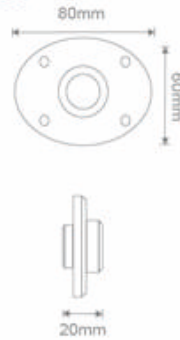
Duct type (V)



Separate(S)

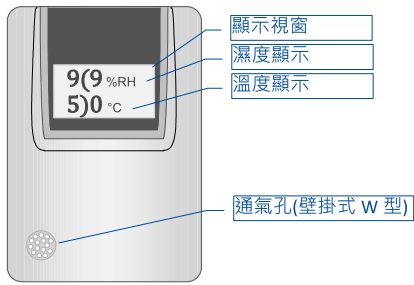


(Flange)

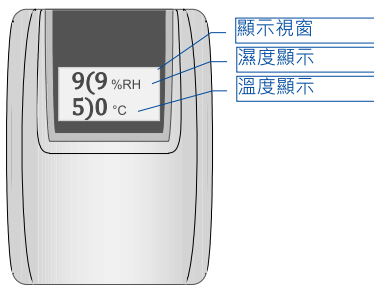


■ 顯示面板

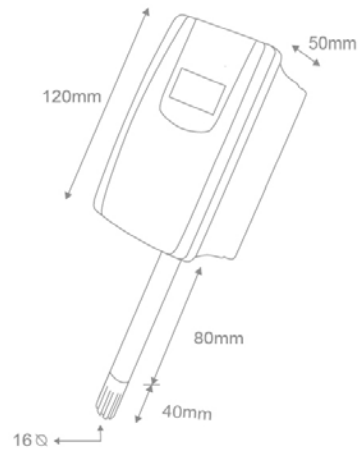
壁掛型(W 式)



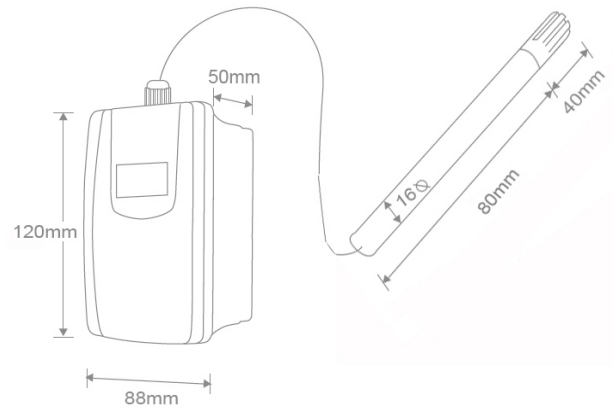
風管型(H 型、V 型)



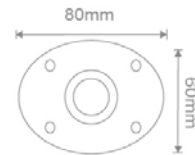
風管型(V 式)



分離式(S)

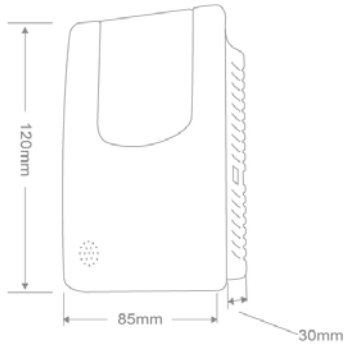


固定法蘭(Flange)

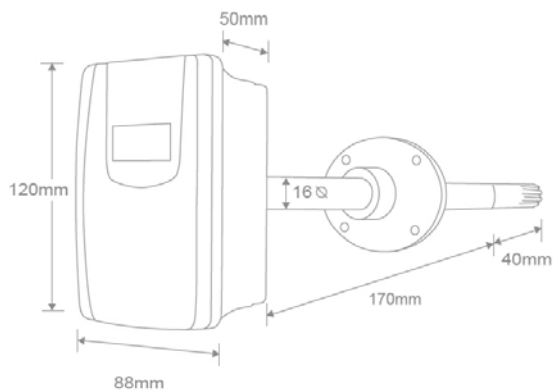


■ 外觀尺寸

壁掛型(W 式)

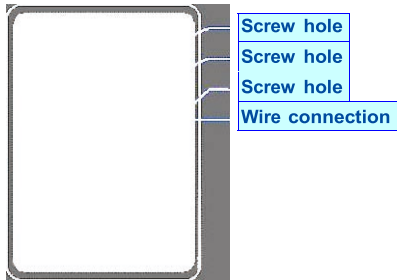
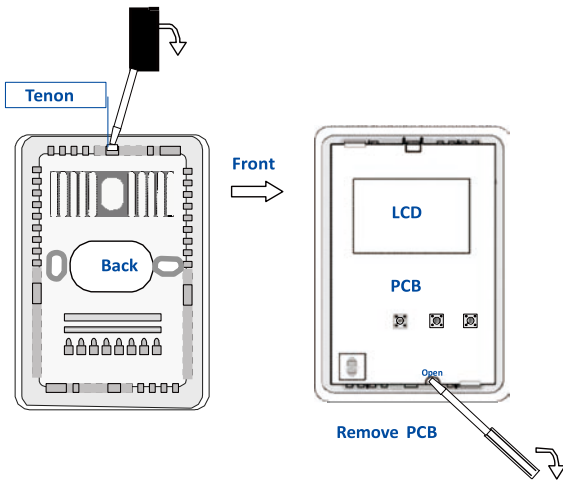


風管型(H 式)

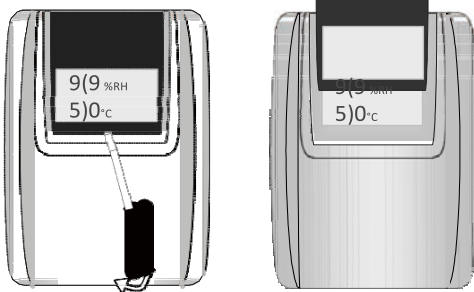


INSTALLATION

Wall mounting (W)



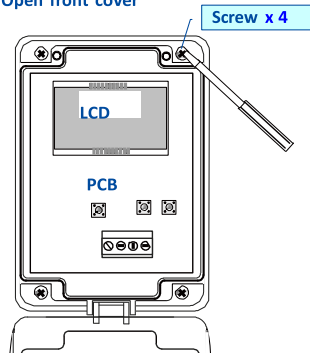
Duct type (H,V and S) Slide protection cover



Loosen screws



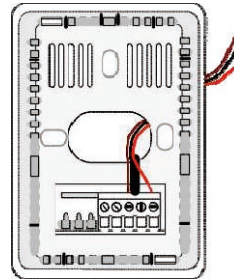
Open front cover



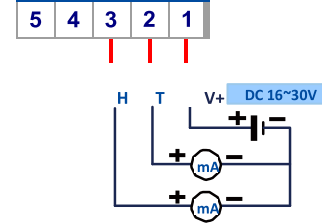
WIRE CONNECTION

Please check power supply voltage and wiring connection before installation. For safety of device, install fuse at power source for protection ⚠ In case of change in wiring, please follow connection diagram on unit.
 Connection wire size 22AWG. Please use isolated twisted pair cable for analogue and RS485 output connection
 Connection terminal: 8A/300Vac, M3.5, 1.2~3.5mm² (22~12AWG)

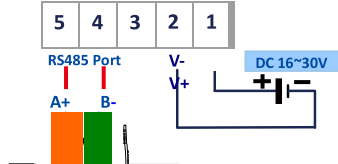
Wall mounting (W) connection



2 wired 4~20mA output

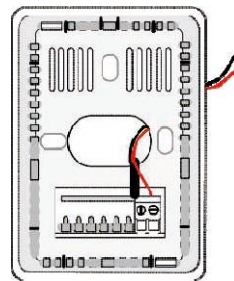


RS485 output connection



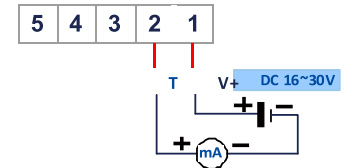
Max. Distance: 1200M
 Terminate Resistor
 (at latest unit):
 120~300ohm/0.25W
 (typical: 150ohm)

Wall mounting (W) -Temperature only



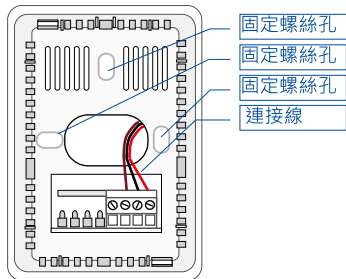
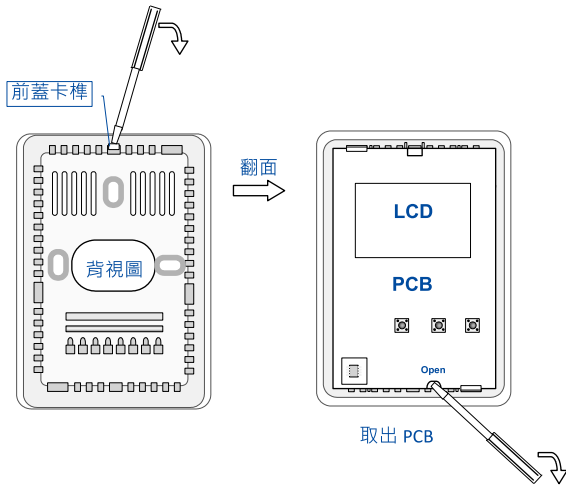
Only 2 wired 4~20mA output

2 wired 4~20mA output connection



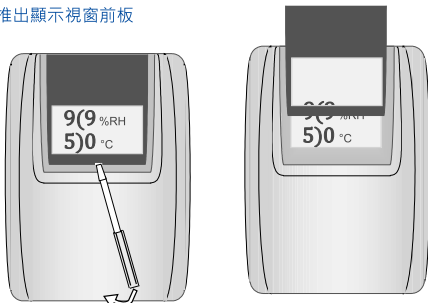
■ 安裝方式

壁掛型 (W 式)

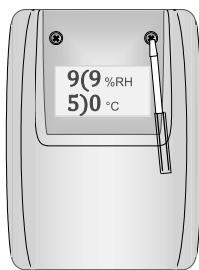


風管型(H式·V式及S式)

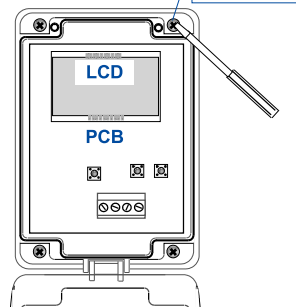
推出顯示視窗前板



鬆開固定螺絲



打開前蓋



■ 接線方式

接線時，請務必確認電源電壓是否正確並連接正確。為設備及儀表安全，建議在電源安裝保險絲(Fuse)。

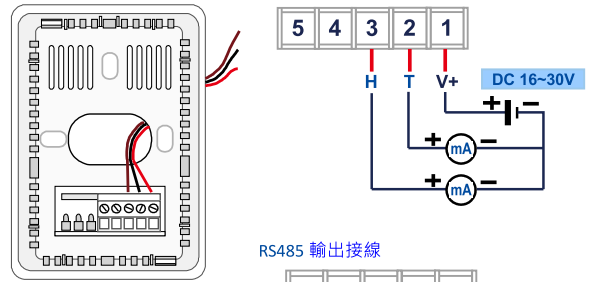
⚠ 接線有可能變更，請依照產品上的接線圖接線。

● 連接器上的電線線徑為 22AWG

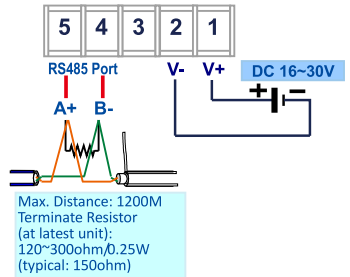
● 連接 類比輸出 及 RS485 時，請使用 隔離雙絞線。

接線端子: 8A/300Vac, M3.5, 1.2~3.5mm² (22~12AWG)

壁掛型 (W 式)

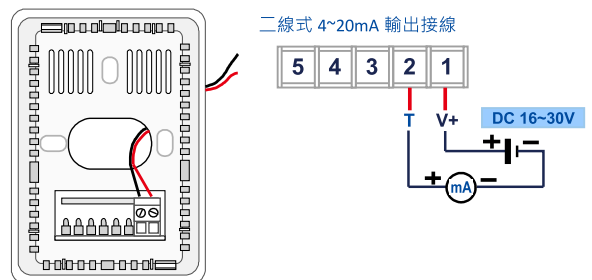


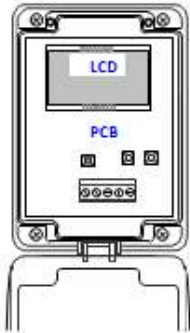
RS485 輸出接線



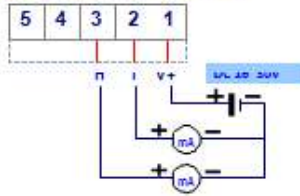
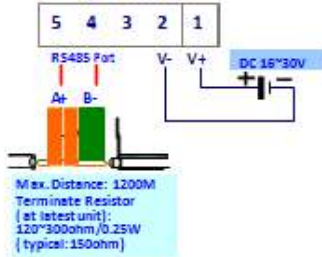
壁掛型 (W 式) - 純溫度

只能選擇二線式 4~20mA 輸出



Duct type
 (H,V and S)


- Insert wire into terminal to be in contact with connector ;
- European standard terminal DIN PG9 Nylon Cable Gland
 Range of wire diameter : 4.0~8.0mm
 Protection class : IP65

2 wire 4~20mA output connection

RS485 output connection

Display value

When temperature & humidity value is inaccurate, please follow instruction manual to adjust values from PCB button.

Analogue output
Output value

Follow operation manual to set temperature and humidity range by button on PCB for analogue output.

Output response

Follow operation manual to set analogue output response time by buttons on PCB.; setting range 1.0~10.0 sec/time

FUNCTIONS

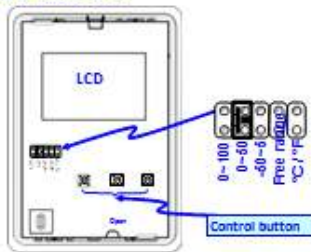
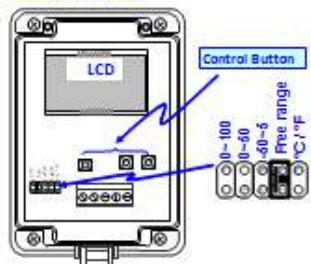
Display function
Display range:

HPT series are designed with 4 temperature range on PCB, change by using jumper, the range are 0~50°C - -50~+50°C - 0~100°C - -30/0~50/100°C. According to difference model, they can be changed in difference range.

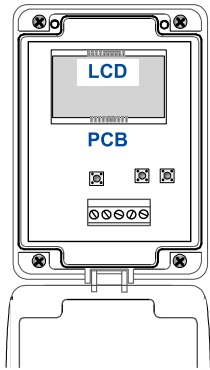
Without display type: 0~100, 0~50, -50~50

With display type: 0~100, 0~50, -50~50. Free range(with analogue output: the default of Free range will be -20~80; low range can be set: -30~0, high range can be set: 50~100. with RS485: ppcct...Eppp, range is disabling. User can select range through button.)

Output value according to selected range.

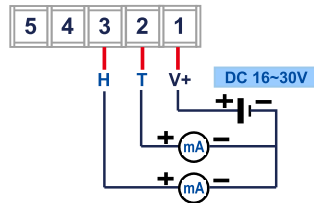
Wall mounting (W)

Duct type(H,V and S)


風管型 (H 式、V 式 及 S 式)

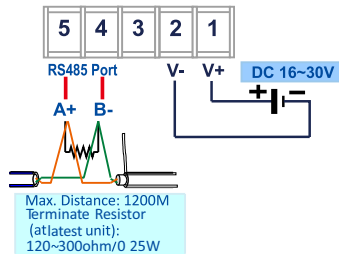


- 將電纜線經由接線口引入接線盒並接上連接器(Connector)上的導線；
- 接線口為標準歐規(DIN) PG9 外迫式電纜固定頭(Nylon Cable Gland)
使用電纜直徑範圍：4.0~8.0mm
保護等級：IP65

二線式 4~20mA 輸出接線



RS485 輸出接線



顯示值修正:

當顯示溫度及濕度值有誤差時，可透過 PCB 上的按鍵，根據操作手冊各別進行平移修正；

類比輸出功能

輸出值修正:

類比輸出對應溫度及濕度範圍，可經由 PCB 上的按鍵，根據操作手冊各別進行設定或修正；

輸出反應速度:

類比輸出的反應速度，可經由 PCB 上的按鍵，根據操作手冊設定；其設定範圍為 1.0~10.0 秒/次

功能說明

顯示功能

顯示範圍:

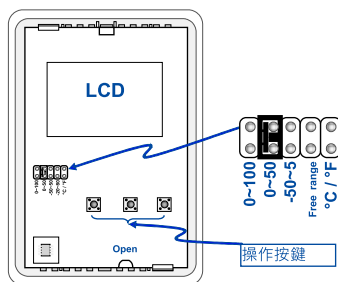
本系列溫濕度傳感器在 PCB 上設計四種溫度範圍及壁掛型 (W 式) 的切換短路片，分別為 0~50°C、-50~+50°C、0~100°C、-30/0~50/100°C，依機種，使用者可依據使用狀況自行切換；

無 LCD 顯示機型：0~100, 0~50, -50~50, 可由 短路片選擇三個範圍

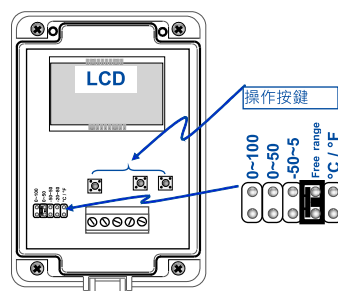
LCD 顯示機型：0~100, 0~50, -50~50, Free range (選購類比輸出：Free range 預設值為 20~80；低值：-30~0，高值：50~100，可由按鍵設定。選購 RS485 輸出：Free range 無功能)

切換後的範圍即為對應類比輸出的溫度範圍。

壁掛型 (W 式)



風管型(H 式、V 式 及 S 式)



KSAT Thermal anemometer transmitter (Duct / Separate)

FEATURES

- 3 ranges selection : 2 m/s ; 10 m/s ; 20 m/s °
- Output selection : 4~20mA / 0~10Vdc °
- High stability and high repeatability °
- Low installation angle error °

APPLICATION

HVAC air process monitoring, environmental control and clean rooms, laminar flow monitoring.



ORDERING INFORMATION

KSAT		Installation	Range	Output	AUX. POWER	Option			
CODE	Installation	CODE	Range	CODE	Output	CODE	AUX. POWER	CODE	Option
H	Duct	02	0 ~ 2 m/s	I	4 ~ 20 mA	24	DC 24V	N	None display
S	Separate	10	0 ~ 10	V	0~10 V			D	LED display
		20	0 ~ 20					C	5 m wire (Separate)

TECHNICAL SPECIFICATION

Sensing signal:	2m/s ; 10m/s ; 20m/s
Output signal:	4~20mA / 0~10V
Wiring:	Three-wire
Accuracy:	±3 % FS+0.2m/S (@25°C,45%rh,1013mbar)
Operating range:	6 %~100% F.S.
Load impedance:	Current output : ≤ 500Ω Voltage Output : ≥ 10KΩ
Zero and span adjustment:	Zero & Span 10 %
Reaction time:	1 seconds to reach 90% of final value
Installation angle influence:	<3% of the measured value (when mounting angle <10 °)
Measuring media	Air
Medium temperature:	0 ~ 50°C
Working environment	
Operating Temperature:	0 ~ 50°C
Relative humidity:	0 ~ 85%RH, Non-condensing
Storage Temperature:	-20 ~ 60°C
Power supply	
Power Supply:	DC 24V±10%
Power consumption:	150mA
Overvoltage protection :	< 33Vdc
Electrical connection:	Quick Connect seat

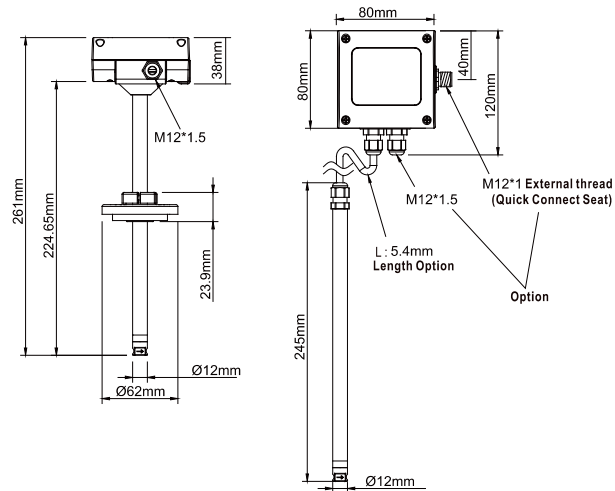
Mounting

Installation :	Duct / Separate
Fixed :	Flange mounting base
Protection level :	IP65
Electrical protection:	Over voltage/Reverse power protection

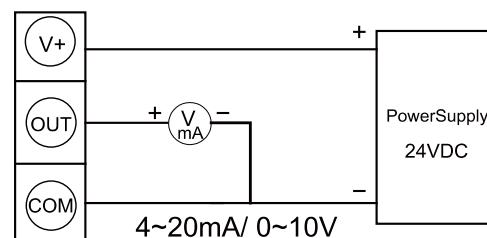
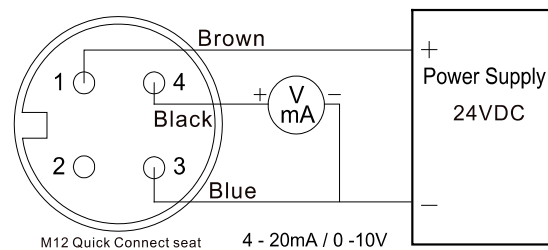
Mechanical

Dimensions:	80mm(W) x120mm(H) x 38mm(D)
Probe Length:	Duct : Ø12 x 224mm Separate : Ø12 x 245mm
Housing material:	PC, Flame retardant
Probe material:	PC, Flame retardant
Probe head material	Stainless steel
Wires Material:	PVC (Separate)
Weight:	Duct : 147g Separate : 200g

FRONT PANEL



DIMENSIONS



KSAT 熱線式風速傳送器(風管型/分離型)

■特點

- 三種範圍選定：2 m/s；10 m/s；20 m/s。
- 輸出選擇：4~20mA / 0~10Vdc。
- 高穩定性及重複性。
- 低安裝角度誤差。

■應用

HVAC 空氣製程監控、無塵室與環境控制、層流監控。



■規格選擇表

KSAT — 安裝型式		— 量測範圍		— 輸出信號		— 工作電源		— 附加功能	
CODE	安裝型式	CODE	量測範圍	CODE	輸出信號	CODE	工作電源	CODE	附加功能
H	風管型	02	0~2 m/s	I	4~20 mA	24	DC 24V	N	無顯示
S	分離型	10	0~10	V	0~10 V			D	LED 顯示器
		20	0~20					C	5 米導線(分離型)

■技術規格

量測範圍：	2m/s；10m/s；20m/s
輸出訊號：	4~20mA / 0~10V
接線方式：	三線式迴路
精度：	±3 % FS+0.2m/S (@25°C, 45%rh, 1013mbar)
工作範圍：	6%~100% F.S.
負載阻抗：	電流輸出：≤ 500Ω 電壓輸出：≥ 10KΩ
輸出調整範圍：	零點與滿刻度的±10%
反應時間：	1 秒達到最終值的 90%
安裝角度影響：	< 3%的量測值(當安裝角度<10 度)
測量介質：	空氣
測量介質溫度：	0~50°C

工作環境

工作溫度：	0~50°C
工作相對濕度：	0~85%RH, 不結露
儲存溫度：	-20~60°C

電源

工作電源：	DC 24V±10%
功率消耗：	150mA
過電壓保護：	< 33Vdc
電氣連接：	快速連接座

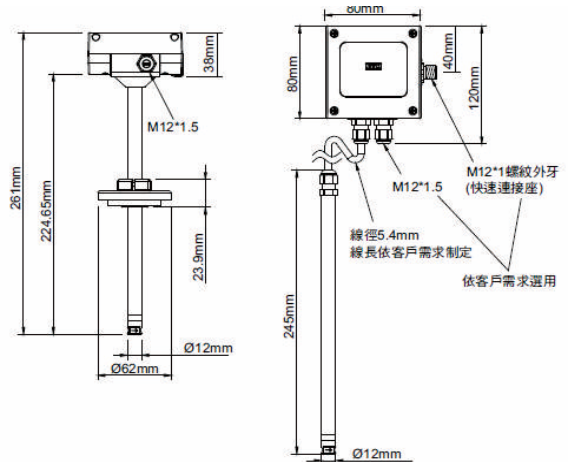
安裝方式

安裝方式：	管路式 / 分離式
固定方式：	法蘭式安裝基座
保護等級：	IP65
電氣保護：	過電壓 / 逆向保護

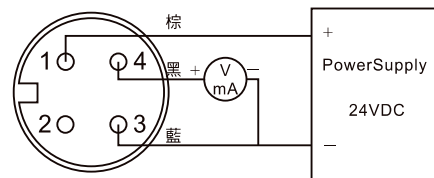
機械結構

本體外觀尺寸：	80mm(寬) x 120mm(高) x 38mm(深)
測棒長度：	管路型：Ø12 x 224mm 分離型：Ø12 x 245mm
外殼材質：	PC, 防火材質
測棒材質：	PC, 防火材質
測頭材質：	不銹鋼
導線材質：	PVC (分離型)
重量：	風管型：147 克 分離型：200 克

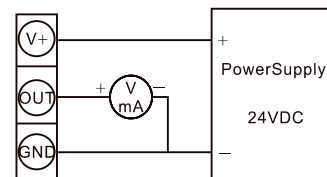
■尺寸外觀



■接線圖



M12 快速連接座
4-20mA / 0-10V



M16 電纜固定頭
4-20mA / 0-10V

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