

感謝您購買本公司的產品！為使產品能正常運作，請您詳閱使用手冊，並請依照說明操作。謝謝！
 Thanks for choosing our product! Please read carefully and follow this instruction before using!

產品介紹 Introductions

TCS4100R 系列CO2& 溫濕度傳訊器，專為檢測環境二氧化碳濃度而設計，應用於智慧型通風系統控制及環境監控上，作有效地能源消耗控制和改善室內空氣品質。此系列產品採用NDIR的紅外線波導技術及空氣採樣感測元件，提高其量測的準確性。可搭配智慧型大樓的通風系統及空調系統，根據室內人數多寡來做適當通風控制，以保持室內空氣的清新，在人少或無人時，可自動調節低通風量，亦可搭配監控系統同時做濃度監測。可應用於商場、辦公室、會議室、教室、餐廳、火車站、或各式公共場所等空間。

TCS4100R series is designed for measuring the ambient carbon dioxide concentration or with optional measurement of temperature & humidity and provide signal output for monitoring or control. Utilizing NDIR sensing element ensures its accuracy of measurement. It is perfect for building climate control, greenhouse, mushroom farms and other processes where environmental control or monitoring is required. By controlling the ventilation or air-conditioning system based on actual demand, it helps to reduce energy consumption while maintaining a healthy indoor climate.

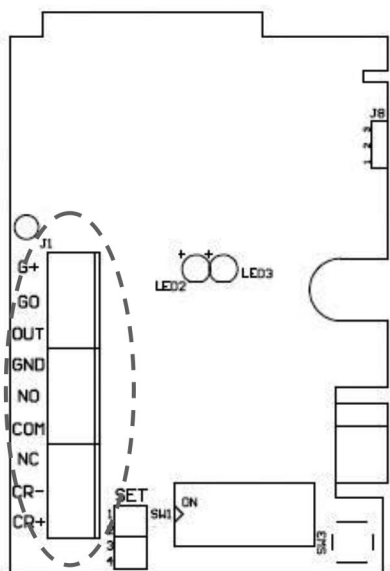
安裝方式 Installation

- 請確認傳訊器、配件、說明書是否齊全
Please check if the transmitter, accessory pack and instruction manual are included in the package.
- 請選定安裝傳訊器的位置
Please decide right position for installation.
- 將底座以螺絲固定在欲安裝的牆面或裝線盒上
Fix the base with screws on the wall.
 - 請依接線圖連接訊號線 (RS-485輸出,請參考接線圖一)
Please refer Figure 1 for wiring.
 - 將PC板(LCD/LED面朝上)，插入接線端子台，並將PC板嵌入正確位置
Connect properly the PC board to the terminal (LCD / LED is on top)

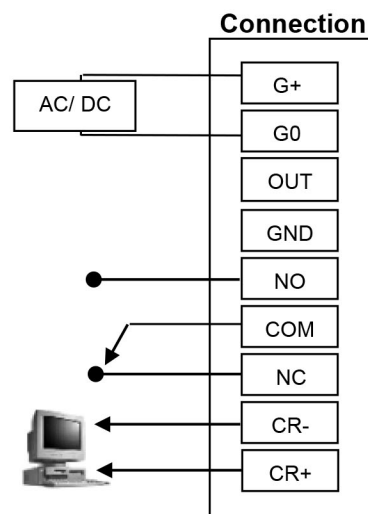
注意：接線前後，請勿接上電源，以免造成機板損壞，或發生危險

Notice: Please remove power from the unit before wiring, in order to avoid any damage or hazard.

接線方式 Wiring

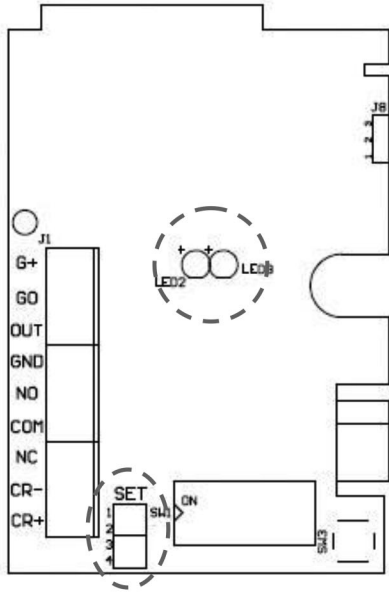


1.	G+	AC / DC 10~36V
2.	G0	System GND
3.	OUT	N/A
4.	GND	N/A
5.	NO	Normally opened
6.	COM	Com
7.	NC	Normally closed
8.	CR-	RS-485(-)
9.	CR+	RS-485(+)



【圖一】 Figure 1

Relay 輸出 (CO2設定警報輸出) Relay output (CO2 set point alarm)



Jumper setting 設定

Relay輸出設定

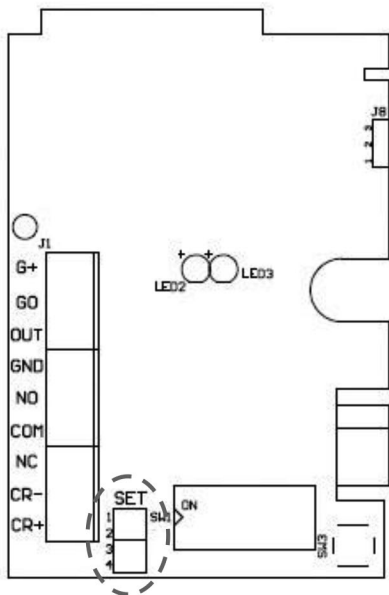
Relay contact setting :

- 設定為“1”: 設定警報輸出為800 ppm，磁滯濃度為100 ppm
Set 1: pre-set at 800 ppm with hysteresis of 100 ppm.
- 設定為“0”: 設定警報輸出為1000 ppm，磁滯濃度為100 ppm
Set 0: pre-set at 1,000 ppm with hysteresis of 100 ppm.

Relay Output	JP2
Relay contact setting 800 ppm	1
Relay contact setting 1000 ppm(Default)	0

* 當二氧化碳濃度達到警報設定值時,LED指示燈將會恆亮
When the CO2 concentration reaches the alarm setting point, LED indicator will be switched on.

顯示頁面設定 Display the Page Set



Jumper setting 設定

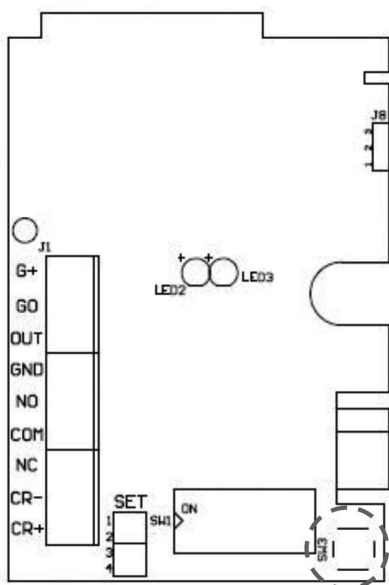
使用短路夾依需求，做短路或開路的調整

1 : 短路 (short). 0 : 開路 (open.)

By using the shorting clip needs,make adjustments shorted or open
1:Short 1: Open

Display settings Select	JP3	JP4
Humidity	0	0
Temperature	0	1
CO2	1	0
Every 5 seconds for page display(Default)	1	1

CO2大氣校正 CO2 Atmospheric Correction



SW3持續按3秒後,將回到大氣初始值

SW3 sustained by three seconds, it will return to the initial value of the atmospheric

* background calibration assuming 400 ppm CO 2 sensor exposure
(when closed for minimum 4, max 8 seconds)

範例 Example:

溫度所得資料2356(10進制)，將2356/100=23.56°C

The temperature data obtained is 2356 (decimal). Then 2356/100=23.56°C

溼度所得資料4875(10進制)，將4875/100=48.75%

The humidity data obtained is 4875 (decimal). Then 4875/100=48.75%

校正方式 Calibration

若732ppm要校正為662ppm，校正值為(662-732) = -70ppm轉成16進制0xFFBA即可。

To calibrate 732ppm to 662ppm, the correction data is (662-732) = -70ppm.

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
CO2 ppm	0xFF	0x06	0x0003	0xFFBA	XXXX

若要設回初值，則下達0x0000即可 To reset it to the default value, set 0x0000.

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
CO2 ppm	0xFF	0x06	0x0003	0x0000	XXXX

若23.56度要校正為20.56度，校正值為(20.56-23.56)*100 = -300°C

To calibrate 23.56°C to 20.56°C, the correction is as below:

(20.56-23.56)*100 = -300°C

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溫度 Temperature	0xFF	0x06	0x0004	0xFED4	XXXX

若23.56度要校正為26.56度，校正值為(26.56-23.56)*100=300°C

To calibrate 23.56°C to 26.56°C, the correction is as below:

(26.56-23.56)*100 = 300°C

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溫度 Temperature	0xFF	0x06	0x0004	0x012C	XXXX

若要設回初值，則下達0即可 To reset to default value, set 0.

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溫度 Temperature	0xFF	0x06	0x0004	0x0000	XXXX

若48.75%RH要校正為45.75%RH，校正值為(45.75-48.75)*100= -300%RH

To calibrate 48.75%RH to 45.75%RH, the correction is as below:

(45.75-48.75)*100= -300%RH

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溼度 Humidity	As 0xFF	0x06	0x0005	0xFED4	XXXX

若48.75%RH要校正為51.75%RH，校正值為(51.75-48.75)*100=300%RH

To calibrate 48.75%RH to 51.75%RH, the correction is as below:

(51.75-48.75)*100=300%RH

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溼度 Humidity	0xFF	0x06	0x0005	0x012C	XXXX

若要設回初值，則下達0即可

To reset to default value, set 0.

	硬體位址 Device ID	功能 Function	軟體位址 Address	資料內容 Data	錯誤檢查 Checksum
溼度 Humidity	0xFF	0x06	0x0005	0x0000	XXXX

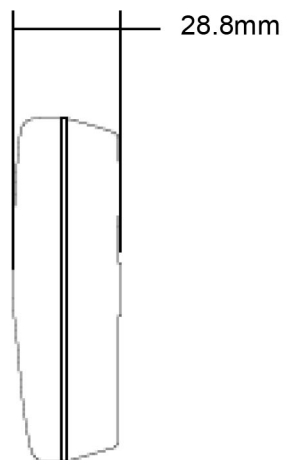
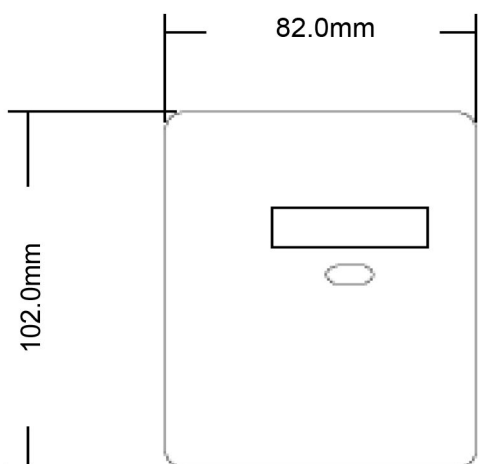
** Remark 3 :

二氧化碳可調範圍為±70ppm、溫度溼度可調範圍為±500 (°C / %RH)

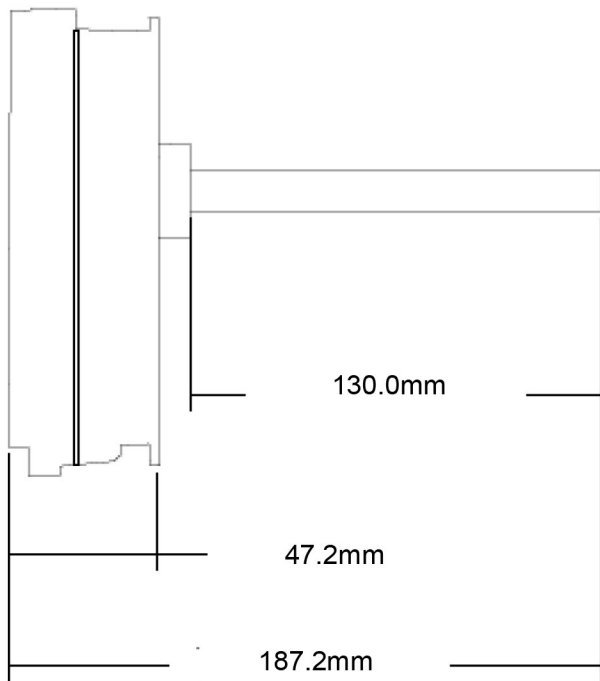
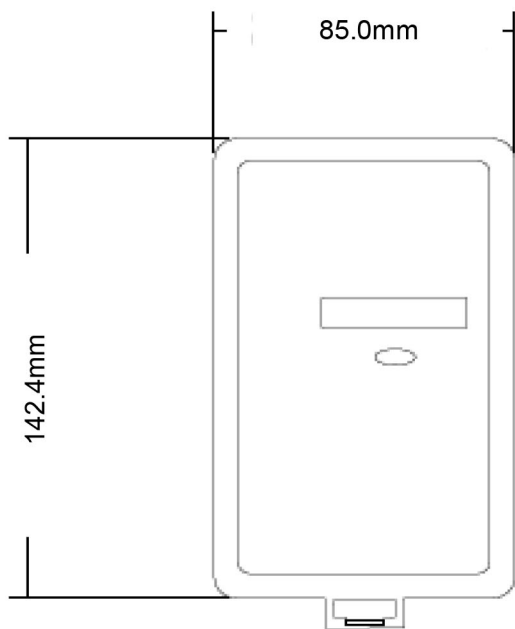
The CO2 calibration range is ±70ppm; temperature(°C)/humidity (%RH) is ±500

尺寸 **Dimensions**

壁掛式 **Wall mount Type**



風管式 **Duct mount Type**



安裝方式 Installation

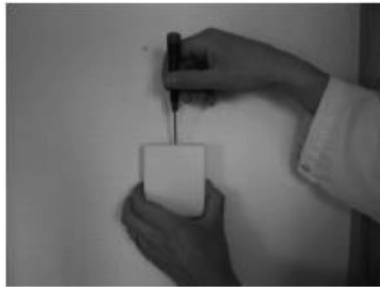
1. 壁掛式 Wall mount type

- 以一字型螺絲起子按壓產品外殼上方的卡榫，以打開上蓋。(請參閱圖二 ~ 圖四)

Press tenon on top of the housing with a screw driver to remove the upper cover. (Please refer to the Figure 2 to Figure 4)



【圖二】 Figure 2



【圖三】 Figure 3

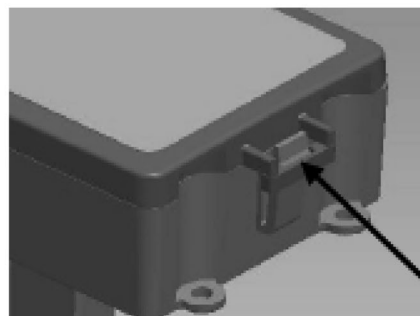


【圖四】 Figure 4

2. 風管式 Duct mount type

- 以一字型螺絲起子按壓產品外殼下方的卡榫，以打開上蓋。(請參閱圖五)

Press tenon on the bottom of the housing with a screw driver to remove the upper cover. (Please refer to the Figure 5)



Press here to open

【圖五】 Figure 5

