

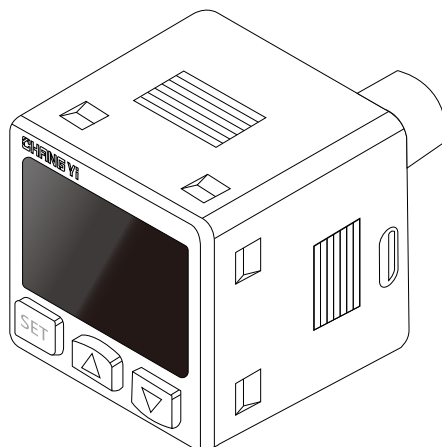
# DPS RS485 系列數字顯示氣壓開關

DPS RS485 Series Digital Display Pressure Switch

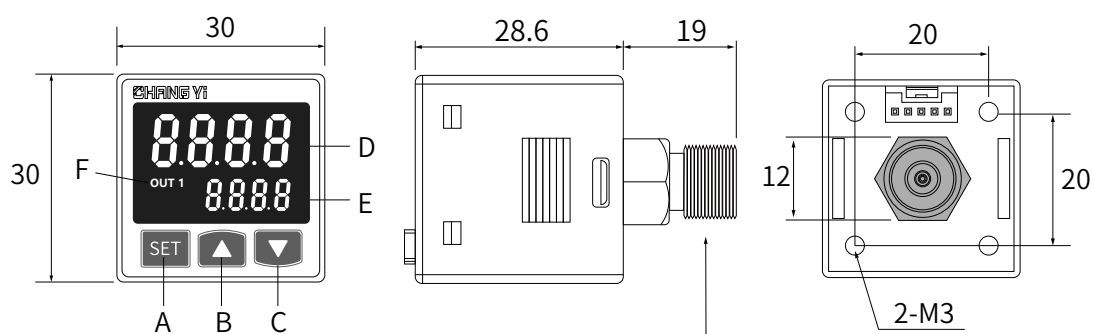
## 操作介面使用說明 User Interface Instructions

- 1、安裝接頭
- 2、開啟電源

- 1、Install the connector
- 2、Turn on the power



- ◎ 輸出電流超過100mA, 將啟動過電流保護, 重啟電源後恢復正常。
- ◎ 調整輸出-反應時間, 可避免檢出瞬間異常壓力變化。
- ◎ When the output current is higher than 100mA, the overcurrent protection is triggered. Restart the device to release it.
- ◎ Adjusting Output-Response time can avoid to detect the change of abnormal pressure in transient.



- A、設定鍵  
B、數值向上鍵  
C、數值向下鍵  
D、壓力數值顯示區  
E、設定氣壓值顯示區  
F、輸出1指示燈
- A、Setting button  
B、Value up button  
C、Value Down button  
D、Pressure display area  
E、Set pressure display area  
F、Output 1 indicator light

牙型編碼類別:  
外牙 PT 1/8, 內牙 M5  
外牙 NPT 1/8, 內牙 10-32UNF  
外牙 G 1/8, 內牙 M5

pipng specifications:  
PT 1/8 with M5 female thread  
NPT 1/8 with 10-32UNF female thread  
G 1/8 with M5 female thread

## 基本設定模式 Basic mode

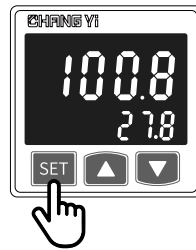


按壓設定鍵2秒  
Press the SET button  
for 2 seconds

介面切換  
Interface switch

按壓設定鍵2秒  
Press the SET button  
for 2 seconds

## 開機進入量測模式 measurement mode

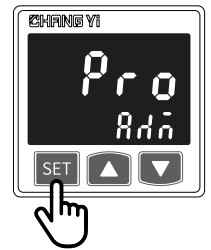


按壓設定鍵4秒  
Press the SET button  
for 4 seconds

介面切換  
Interface switch

按壓設定鍵4秒  
Press the SET button  
for 2 seconds

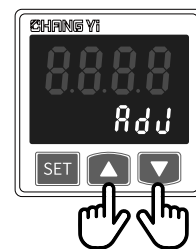
## 進階設定模式 Advanced Mode



### ■ 氣壓測量值歸零 Zero-clear function

在量測模式下同時按上、下箭頭鍵，顯示右圖即歸零動作，  
放開按鍵歸零完成

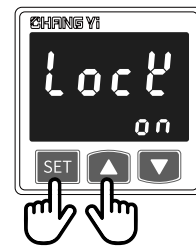
Press up and down arrow button simultaneously  
to reset the display value to zero.



△ ▽ 同時按下  
△ ▽ press button  
simultaneously

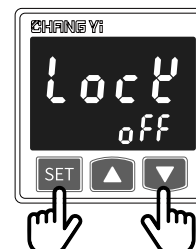
### ■ 按鍵鎖定功能 Key lock function

在量測模式下同時按數值向上鍵+設定鍵，設定值列顯示  
ON為按鍵鎖定  
Press up and the SET button simultaneously ,release  
it when the display turns to "lock on".



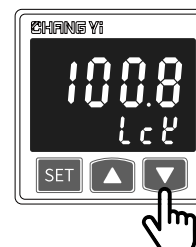
△ SET 同時按下  
△ SET press button  
simultaneously

在量測模式下同時按數值向下鍵+設定鍵，設定值列顯示  
OFF為按鍵解鎖  
Press down and the SET button simultaneously ,  
release it when the display turns to "lock OFF".



▽ SET 同時按下  
▽ SET press button  
simultaneously

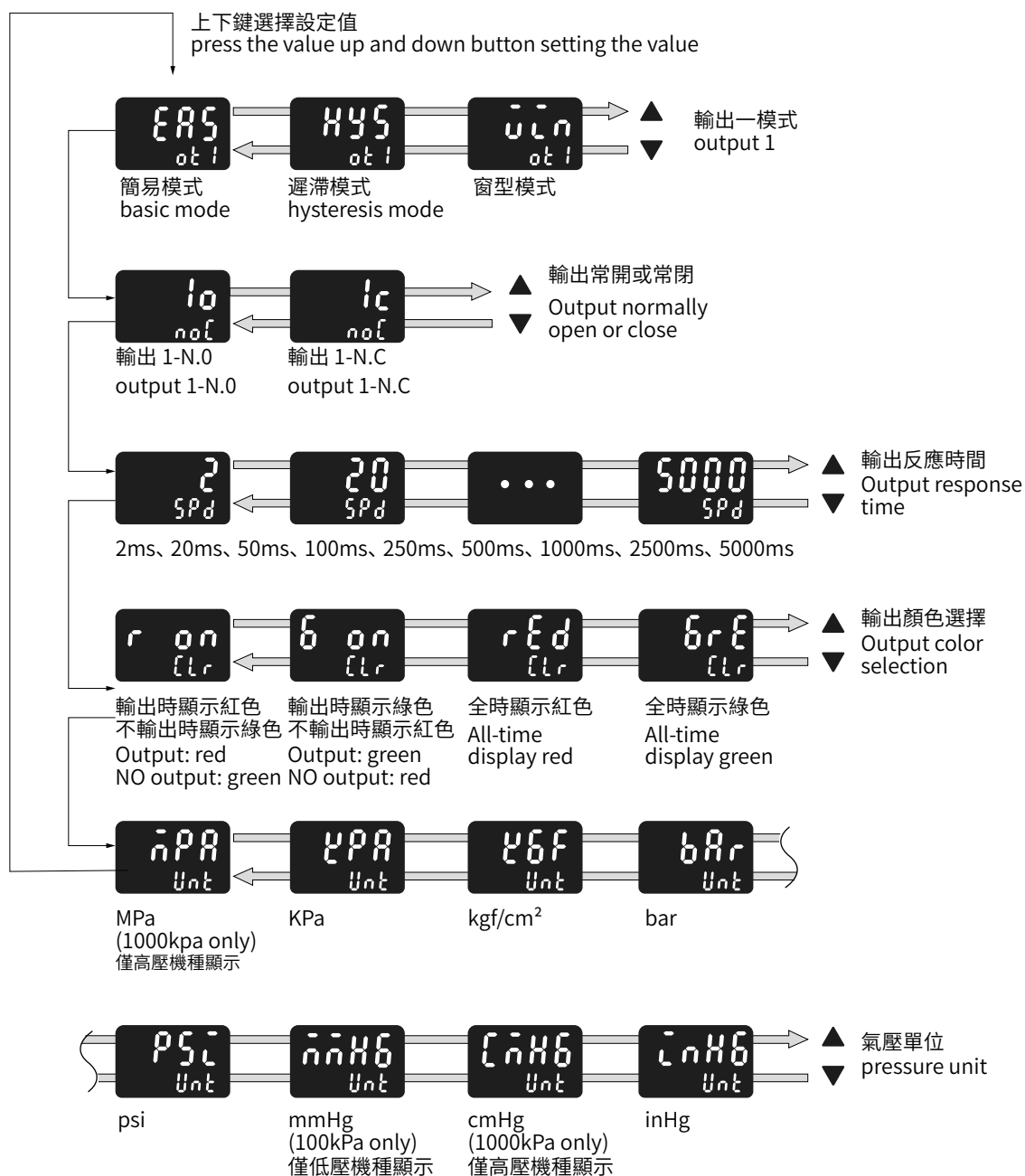
按鍵鎖定時設定值列依然顯示設定值，按下任何鍵會出  
現LCK  
Press any button will display "LCK" in lock on mode





## 基本設定模式 Basic Mode

### 基本設定模式介面 Interface of Basic Mode





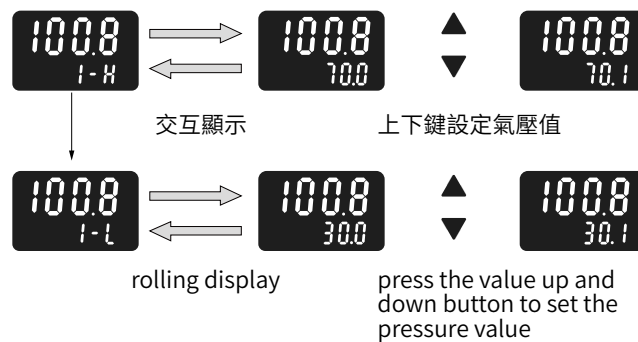
量測模式  
Measurement mode

## 簡易模式氣壓值設定介面 Interface of Basic Mode



設定鍵切換選單  
press the SET button to change menu

## 遲滯/窗型模式氣壓值設定介面 Hysteresis/Window Comparator Mode



設定鍵切換選單  
press the SET button to change menu



## 進階設定模式 Advanced mode

### 進階設定模式介面 Interface of Advanced Mode



設定鍵切換選單  
press the SET button to change menu

# 通訊協定 (Modbus RTU)

## (1) 電腦/PLC 送出資料格式(主機端)Computer/ PLC transmits data (from server end)

|                                 |                    |                              |                            |                                   |
|---------------------------------|--------------------|------------------------------|----------------------------|-----------------------------------|
| 數顯氣壓表 ID站號 (DPS ID No)<br>1Byte | 讀 (Read)<br>1 Byte | 功能碼(Function code)<br>2 Byte | 資料筆數(Data Count)<br>2 Byte | CRC檢查碼(inspection code)<br>2 Byte |
|---------------------------------|--------------------|------------------------------|----------------------------|-----------------------------------|

## (2) 數顯氣壓表回傳資料格式(從機端 CYDS Pro)DPS transmits data (from machine CYDS Pro)

|                                 |                    |                                |                             |                                   |
|---------------------------------|--------------------|--------------------------------|-----------------------------|-----------------------------------|
| 數顯氣壓表 ID站號 (DPS ID No)<br>1Byte | 讀 (Read)<br>1 Byte | 資料Byte數(Data Length)<br>1 Byte | 資料(Data Length)<br>2n Byte* | CRC檢查碼(inspection code)<br>2 Byte |
|---------------------------------|--------------------|--------------------------------|-----------------------------|-----------------------------------|

\*n 為資料Byte 數量

\*n is the number of Byte

## (3) 電腦/PLC 送出資料格式(主機端)Computer/ PLC transmits data (from server end)

|                                 |                   |                              |                           |                                   |
|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|
| 數顯氣壓表 ID站號 (DPS ID No)<br>1Byte | 寫(edit)<br>1 Byte | 功能碼(Function code)<br>2 Byte | 資料(Data Length)<br>2 Byte | CRC檢查碼(inspection code)<br>2 Byte |
|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|

## (4) 數顯氣壓表回傳資料格式(從機端 CYDS Pro)DPS transmits data (from machine CYDS Pro)

|                                 |                   |                              |                            |                                   |
|---------------------------------|-------------------|------------------------------|----------------------------|-----------------------------------|
| 數顯氣壓表 ID站號 (DPS ID No)<br>1Byte | 寫(edit)<br>1 Byte | 功能碼(Function code)<br>2 Byte | 資料(Data Length)<br>2 Byte* | CRC檢查碼(inspection code)<br>2 Byte |
|---------------------------------|-------------------|------------------------------|----------------------------|-----------------------------------|

## (5) 數顯氣壓表回傳資料格式(異常)DPS transmits data (abnormal)

|                                 |                           |                                |   |                                   |
|---------------------------------|---------------------------|--------------------------------|---|-----------------------------------|
| 數顯氣壓表 ID站號 (DPS ID No)<br>1Byte | 寫or讀(edit/read)<br>1 Byte | 異常代碼(Exception code)<br>1 Byte | / | CRC檢查碼(inspection code)<br>2 Byte |
|---------------------------------|---------------------------|--------------------------------|---|-----------------------------------|

## (6) 讀/寫碼→動作Read/edit code --> Action

|                                     |                                    |
|-------------------------------------|------------------------------------|
| 03H→ 讀取 氣壓錶參數 (Read DPS parameters) | 06H→ 寫入 氣壓錶參數(Edit DPS parameters) |
|-------------------------------------|------------------------------------|

## (7) 例:讀取氣壓值Ex.:read pressure value

|                      |                  |                            |      |                          |      |                                 |      |
|----------------------|------------------|----------------------------|------|--------------------------|------|---------------------------------|------|
| ID站號 (ID No)<br>0x00 | 讀 (Read)<br>0x03 | 功能碼(Function code)<br>0x00 | 0x03 | 資料筆數(Data Count)<br>0x00 | 0x01 | CRC檢查碼(inspection code)<br>0x75 | 0xDB |
|----------------------|------------------|----------------------------|------|--------------------------|------|---------------------------------|------|

## 數顯氣壓表回傳資料格式

|                      |                  |                              |                         |      |                                 |      |   |
|----------------------|------------------|------------------------------|-------------------------|------|---------------------------------|------|---|
| ID站號 (ID No)<br>0x00 | 讀 (Read)<br>0x03 | 資料Byte數(Data Length)<br>0x02 | 資料(Data Length)<br>0x00 | 0x64 | CRC檢查碼(inspection code)<br>0xB5 | 0xF0 | / |
|----------------------|------------------|------------------------------|-------------------------|------|---------------------------------|------|---|

\*氣壓值 100(Air pressure value 100)

## (8) 例:設定 數顯氣壓表站號Ex. to set DPS ID No.

|                      |                 |                            |      |                         |      |                                 |      |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|
| ID站號 (ID No)<br>0x00 | 寫(edit)<br>0x06 | 功能碼(Function code)<br>0x00 | 0x00 | 資料(Data Length)<br>0x00 | 0x00 | CRC檢查碼(inspection code)<br>0x88 | 0x1B |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|

## 數顯氣壓表回傳資料格式DPS transmits data

|                      |                 |                            |      |                         |      |                                 |      |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|
| ID站號 (ID No)<br>0x00 | 寫(edit)<br>0x06 | 功能碼(Function code)<br>0x00 | 0x00 | 資料(Data Length)<br>0x00 | 0x00 | CRC檢查碼(inspection code)<br>0x88 | 0x1B |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|

\*ID站號 0 (ID No 0)

## 例:設定數顯氣壓表站號錯誤Ex. to set wrong DPS ID No.

|                      |                 |                            |      |                         |      |                                 |      |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|
| ID站號 (ID No)<br>0x00 | 寫(edit)<br>0x06 | 功能碼(Function code)<br>0x00 | 0x00 | 資料(Data Length)<br>0x01 | 0xFF | CRC檢查碼(inspection code)<br>0xC9 | 0xCB |
|----------------------|-----------------|----------------------------|------|-------------------------|------|---------------------------------|------|

## 數顯氣壓表回傳資料異常, 超過設定範圍DPS transmits data failure, over setting range

|                      |                  |                              |   |   |                                 |      |
|----------------------|------------------|------------------------------|---|---|---------------------------------|------|
| ID站號 (ID No)<br>0x00 | 寫(edit)<br>0x86* | 異常代碼(Exception code)<br>0x03 | / | / | CRC檢查碼(inspection code)<br>0x53 | 0xA1 |
|----------------------|------------------|------------------------------|---|---|---------------------------------|------|

\*異常回覆時 Byte1 MSB設定為1, 故此欄位為0x86

Abnormal feedback Byte 1 MSB setting value is 1, therefore the data will show 0x86

## 通訊協定 (Modbus RTU)

**(9)功能碼對照表 (Code Comparison Table) :**

| 功能碼 Code | 說明                                                                             | Description                                                                                      | 動作 Action     |
|----------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------|
| 0000H    | 站號設定範圍: 0~255                                                                  | Station (ID) number setting range: 0~255                                                         | 讀/寫 read/edit |
| 0001H    | 傳感器版本:低壓=1, 高壓=0                                                               | Sensor switch type: low-volt.=1, high-volt.=0                                                    | 讀 read        |
| 0002H    | 氣壓符號±:1=正壓, 0=負壓                                                               | Air pressure :1=positive pressure, 0=negative pressure                                           | 讀 read        |
| 0003H    | 目前氣壓值:有號數 0x0001=1,0xFFFF=-1                                                   | Pressure value: with number (0x0001=1,0xFFFF=-1)                                                 | 讀 read        |
| 0004H    | 氣壓單位: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                | Pressure unit: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                         | 讀/寫 read/edit |
| 0005H    | 小數點位: 0=氣壓值, 1=氣壓值/10, 2=氣壓值/100, 3=氣壓值/1000                                   | Pressure unit: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                         | 讀 read        |
| 0006H    | 氣壓偵測模式:0=Easy, 1=Hys, 2=Win                                                    | Air pressure detected mode:0=Easy, 1=Hys, 2=Win                                                  | 讀/寫 read/edit |
| 0007H    | 輸出開關形式:0=N.O , 1=N.C                                                           | Output switch mode:0=N.O , 1=N.C                                                                 | 讀/寫 read/edit |
| 0008H    | 輸出反應時間:0=2ms,1=20ms,2=50ms,3=100ms, 4=250ms,5=500ms,6=1000ms,7=2500ms,8=5000ms | Output response time:0=2ms,1=20ms,2=50ms,3=100ms, 4=250ms,5=500ms,6=1000ms,7=2500ms,8=5000ms     | 讀/寫 read/edit |
| 0009H    | 輸出背光顏色: 0=紅色, 1=綠色, 2=保持紅, 3=保持綠                                               | Output back light color:0=red, 1=green, 2=continued red, 3=continued green                       | 讀/寫 read/edit |
| 000AH    | 進階遲滯:1,2,3,4,5,6,7,8                                                           | Advanced hysteresis:1,2,3,4,5,6,7,8                                                              | 讀/寫 read/edit |
| 000BH    | 省電模式:0=OFF,1=ON                                                                | Power saving mode:0=OFF,1=ON                                                                     | 讀/寫 read/edit |
| 000CH    | OUT輸出狀態:0=OFF, 1=ON                                                            | OUT output OUT output:0=OFF, 1=ON                                                                | 讀 read        |
| 000DH    | 按鍵鎖:0=OFF, 1=ON                                                                | Button lock:0=OFF, 1=ON                                                                          | 讀/寫 read/edit |
| 000EH    | OUT型態:1=NPN, 0=PNP                                                             | OUT type:1=NPN, 0=PNP                                                                            | 讀 read        |
| 000FH    | LCD刷新時間:0=100ms,1=250ms,2=500ms,3=1000ms                                       | LCD time:0=100ms,1=250ms,2=500ms,3=1000ms                                                        | 讀/寫 read/edit |
| 0010H    | 歸零:<br>寫入值:0 or 1<br>歸零範圍超過 ±3%F.S, 回覆異常代碼 03H                                 | Return to Zero:<br>Input value: 0 or 1<br>Range over +-3% F.S., will show the abnormal code 03H) | 寫 edit        |
| 0011H    | Modbus傳輸速率:0=9600,1=19200,2=38400,3=115200                                     | Modbus transmission:0=9600,1=19200,2=38400,3=115200                                              | 讀/寫 read/edit |
| 0012H    | /                                                                              | /                                                                                                | 保留 reserve    |
| 0013H    | Modbus傳輸格式:0=RTU, 1=ASCII                                                      | Modbus transmission type:0=RTU, 1=ASCII                                                          | 保留 reserve    |
| 0014H    | 恢復出廠預設值:(寫入值:1 or 0)                                                           | Return to default value: (input value: 1 or 0)                                                   | 寫 edit        |
| 0015H    | 氣壓校正斜率微調範圍: -25~25 (實際-2.5 ~ 2.5 , 單位%)                                        | Air pressure adjustment slope range: -25~25 actual -2.5~2.5, unit %                              | 保留 reserve    |
| 0016H    | FW版本號                                                                          | FW version                                                                                       | 讀 read        |
| 0017H    | 設定氣壓觸發值 P or L:依照數顯壓力表當前 模式、單位做設定。有號數                                          | To set air pressure trigger value Por L: base on DPS mode and unit to set, with number           | 讀/寫 read/edit |
| 0018H    | 設定氣壓觸發值 H:依照數顯壓力表當前 模式、單位做設定。有號數                                               | To set air pressure trigger value H: base on DPS mode and unit to set, with number               | 讀/寫 read/edit |

**(10)異常代碼說明 Abnormal code**

| 異常代碼 Abnormal code | 說明                 | Description                                                |
|--------------------|--------------------|------------------------------------------------------------|
| 01H                | 讀/寫錯誤(部份功能 只讀或 只寫) | Read/ edit mistake partial function only read or only edit |
| 02H                | 功能碼輸入錯誤            | Function code input mistake                                |
| 03H                | 資料內容錯誤或設定值超出範圍     | Data mistake or setting over range                         |

## 通訊協定 (Modbus ASCII)

### (1) 電腦/PLC 送出資料格式(主機端) Computer/ PLC transmits data (from server end)

|                          |                                 |                   |                              |                            |                                   |                         |
|--------------------------|---------------------------------|-------------------|------------------------------|----------------------------|-----------------------------------|-------------------------|
| 起始碼(Start code)<br>1Byte | 數顯氣壓表 ID站號(DPS ID No)<br>2 Byte | 讀(Read)<br>2 Byte | 功能碼(Function code)<br>4 Byte | 資料筆數(Data Count)<br>4 Byte | LRC檢查碼(inspection code)<br>2 Byte | 結束碼(End Code)<br>2 Byte |
|--------------------------|---------------------------------|-------------------|------------------------------|----------------------------|-----------------------------------|-------------------------|

### (2) 數顯氣壓表回傳資料格式(從機端 CYDS Pro) DPS transmits data (from machine CYDS Pro)

|                          |                                 |                   |                                |                             |                                   |                         |
|--------------------------|---------------------------------|-------------------|--------------------------------|-----------------------------|-----------------------------------|-------------------------|
| 起始碼(Start code)<br>1Byte | 數顯氣壓表 ID站號(DPS ID No)<br>2 Byte | 讀(Read)<br>2 Byte | 資料Byte數(Data Length)<br>2 Byte | 資料(Data Length)<br>4n Byte* | LRC檢查碼(inspection code)<br>2 Byte | 結束碼(End Code)<br>2 Byte |
|--------------------------|---------------------------------|-------------------|--------------------------------|-----------------------------|-----------------------------------|-------------------------|

\*n 為資料Byte 數量 (\*n is the number of Byte)

### (3) 電腦/PLC 送出資料格式(主機端) Computer/ PLC transmits data (from server end)

|                          |                                 |                   |                              |                           |                                   |                         |
|--------------------------|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|-------------------------|
| 起始碼(Start code)<br>1Byte | 數顯氣壓表 ID站號(DPS ID No)<br>2 Byte | 寫(edit)<br>2 Byte | 功能碼(Function code)<br>4 Byte | 資料(Data Length)<br>4 Byte | LRC檢查碼(inspection code)<br>2 Byte | 結束碼(End Code)<br>2 Byte |
|--------------------------|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|-------------------------|

### (4) 數顯氣壓表回傳資料格式(從機端 CYDS Pro) DPS transmits data (from machine CYDS Pro)

|                          |                                 |                   |                              |                           |                                   |                         |
|--------------------------|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|-------------------------|
| 起始碼(Start code)<br>1Byte | 數顯氣壓表 ID站號(DPS ID No)<br>2 Byte | 寫(edit)<br>2 Byte | 功能碼(Function code)<br>2 Byte | 資料(Data Length)<br>4 Byte | LRC檢查碼(inspection code)<br>2 Byte | 結束碼(End Code)<br>2 Byte |
|--------------------------|---------------------------------|-------------------|------------------------------|---------------------------|-----------------------------------|-------------------------|

### (5) 數顯氣壓表回傳資料格式(異常) DPS transmits data (abnormal)

|   |                                 |                          |   |                |                                   |                         |
|---|---------------------------------|--------------------------|---|----------------|-----------------------------------|-------------------------|
| / | 數顯氣壓表 ID站號(DPS ID No)<br>1 Byte | 寫或讀(edit/read)<br>2 Byte | / | 異常代碼<br>2 Byte | LRC檢查碼(inspection code)<br>2 Byte | 結束碼(End Code)<br>2 Byte |
|---|---------------------------------|--------------------------|---|----------------|-----------------------------------|-------------------------|

### (6) 讀/寫碼 Read/edit code

| 讀/寫碼 Read/edit code | 動作 Action                    |
|---------------------|------------------------------|
| 0×30 0×33           | 讀取 氣壓表參數 read DPS parameters |
| 0×30 0×36           | 寫入 氣壓表參數 edit DPS parameters |

### (7) 例:讀取氣壓值Ex.:read pressure value

|                         |                              |                      |                                           |                                         |                                      |                            |
|-------------------------|------------------------------|----------------------|-------------------------------------------|-----------------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 讀(Read)<br>0x30 0x33 | 功能碼(Function code)<br>0x30 0x30 0x30 0x33 | 資料筆數(Data Count)<br>0x30 0x30 0x30 0x31 | LRC檢查碼(inspection code)<br>0x46 0x39 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|----------------------|-------------------------------------------|-----------------------------------------|--------------------------------------|----------------------------|

### 數顯氣壓表回傳資料格式 DPS transmits data

|                         |                              |                      |                                   |                                        |                                      |                            |
|-------------------------|------------------------------|----------------------|-----------------------------------|----------------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 讀(Read)<br>0x30 0x33 | 資料Byte數(Data Length)<br>0x30 0x32 | 資料(Data Length)<br>0x30 0x30 0x33 0x30 | LRC檢查碼(inspection code)<br>0x43 0x42 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|----------------------|-----------------------------------|----------------------------------------|--------------------------------------|----------------------------|

\*氣壓值 48(Air pressure value 48)

### (8) 例:設定 數顯氣壓表站號Ex.: to set DPS ID no.

|                         |                              |                      |                                           |                                        |                                      |                            |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 寫(edit)<br>0x30 0x36 | 功能碼(Function code)<br>0x30 0x30 0x30 0x30 | 資料(Data Length)<br>0x30 0x30 0x30 0x30 | LRC檢查碼(inspection code)<br>0x46 0x41 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|

### 數顯氣壓表回傳資料格式 DPS transmits data

|                         |                              |                      |                                           |                                        |                                      |                            |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 寫(edit)<br>0x30 0x36 | 功能碼(Function code)<br>0x30 0x30 0x30 0x30 | 資料(Data Length)<br>0x30 0x30 0x30 0x30 | LRC檢查碼(inspection code)<br>0x46 0x41 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|

\*ID站號 0(ID No 0)

### 例:設定 數顯氣壓表站號 錯誤 ex.寫入感測器版本Ex.:to set wrong DPS ID no., for example, to set

|                         |                              |                      |                                           |                                        |                                      |                            |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 寫(edit)<br>0x30 0x36 | 功能碼(Function code)<br>0x30 0x30 0x30 0x31 | 資料(Data Length)<br>0x30 0x30 0x30 0x30 | LRC檢查碼(inspection code)<br>0x46 0x39 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|----------------------|-------------------------------------------|----------------------------------------|--------------------------------------|----------------------------|

### 數顯氣壓表回傳資料異常, 超過設定範圍 DPS transmits data failure, over setting range

|                         |                              |                       |   |                                   |                                      |                            |
|-------------------------|------------------------------|-----------------------|---|-----------------------------------|--------------------------------------|----------------------------|
| 起始碼(Start code)<br>0x3A | ID站號(00)(ID No)<br>0x30 0x30 | 寫*(edit)<br>0x30 0x36 | / | 異常代碼(Exception code)<br>0x30 0x31 | LRC檢查碼(inspection code)<br>0x37 0x39 | 結束碼(End Code)<br>0x0D 0x0A |
|-------------------------|------------------------------|-----------------------|---|-----------------------------------|--------------------------------------|----------------------------|

\*異常回覆時 Byte1 MSB設定為1, 故此欄位為0x38

Abnormal feedback Byte 1 MSB setting value is 1, therefore the data will show 0x38

## 通訊協定 (Modbus ASCII)

**(9)功能碼對照表 (Code Comparison Table) :**

| 功能碼 Code | 說明                                                                             | Description                                                                                      | 動作 Action     |
|----------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------|
| 0000H    | 站號設定範圍: 0~255                                                                  | Station (ID) number setting range: 0~255                                                         | 讀/寫 read/edit |
| 0001H    | 傳感器版本:低壓=1, 高壓=0                                                               | Sensor switch type: low-volt.=1, high-volt.=0                                                    | 讀 read        |
| 0002H    | 氣壓符號±:1=正壓, 0=負壓                                                               | Air pressure :1=positive pressure, 0=negative pressure                                           | 讀 read        |
| 0003H    | 目前氣壓值:有號數 0x0001=1,0xFFFF=-1                                                   | Pressure value: with number (0x0001=1,0xFFFF=-1)                                                 | 讀 read        |
| 0004H    | 氣壓單位: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                | Pressure unit: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                         | 讀/寫 read/edit |
| 0005H    | 小數點位: 0=氣壓值, 1=氣壓值/10, 2=氣壓值/100, 3=氣壓值/1000                                   | Pressure unit: MPa=0, kPa=1, kgf=2, bar=3, psi=4, mmHg=5, cmHg=6, inHg=7                         | 讀 read        |
| 0006H    | 氣壓偵測模式:0=Easy, 1=Hys, 2=Win                                                    | Air pressure detected mode:0=Easy, 1=Hys, 2=Win                                                  | 讀/寫 read/edit |
| 0007H    | 輸出開關形式:0=N.O , 1=N.C                                                           | Output switch mode:0=N.O , 1=N.C                                                                 | 讀/寫 read/edit |
| 0008H    | 輸出反應時間:0=2ms,1=20ms,2=50ms,3=100ms, 4=250ms,5=500ms,6=1000ms,7=2500ms,8=5000ms | Output response time:0=2ms,1=20ms,2=50ms,3=100ms, 4=250ms,5=500ms,6=1000ms,7=2500ms,8=5000ms     | 讀/寫 read/edit |
| 0009H    | 輸出背光顏色: 0=紅色, 1=綠色, 2=保持紅, 3=保持綠                                               | Output back light color:0=red, 1=green, 2=continued red, 3=continued green                       | 讀/寫 read/edit |
| 000AH    | 進階遲滯:1,2,3,4,5,6,7,8                                                           | Advanced hysteresis:1,2,3,4,5,6,7,8                                                              | 讀/寫 read/edit |
| 000BH    | 省電模式:0=OFF,1=ON                                                                | Power saving mode:0=OFF,1=ON                                                                     | 讀/寫 read/edit |
| 000CH    | OUT輸出狀態:0=OFF, 1=ON                                                            | OUT output OUT output:0=OFF, 1=ON                                                                | 讀 read        |
| 000DH    | 按鍵鎖:0=OFF, 1=ON                                                                | Button lock:0=OFF, 1=ON                                                                          | 讀/寫 read/edit |
| 000EH    | OUT型態:1=NPN, 0=PNP                                                             | OUT type:1=NPN, 0=PNP                                                                            | 讀 read        |
| 000FH    | LCD刷新時間:0=100ms,1=250ms,2=500ms,3=1000ms                                       | LCD time:0=100ms,1=250ms,2=500ms,3=1000ms                                                        | 讀/寫 read/edit |
| 0010H    | 歸零:<br>寫入值:0 or 1<br>歸零範圍超過 ±3%F.S, 回覆異常代碼 03H                                 | Return to Zero:<br>Input value: 0 or 1<br>Range over +-3% F.S., will show the abnormal code 03H) | 寫 edit        |
| 0011H    | Modbus傳輸速率:0=9600,1=19200,2=38400,3=115200                                     | Modbus transmission:0=9600,1=19200,2=38400,3=115200                                              | 讀/寫 read/edit |
| 0012H    | /                                                                              | /                                                                                                | 保留 reserve    |
| 0013H    | Modbus傳輸格式:0=RTU, 1=ASCII                                                      | Modbus transmission type:0=RTU, 1=ASCII                                                          | 保留 reserve    |
| 0014H    | 恢復出廠預設值:(寫入值:1 or 0)                                                           | Return to default value: (input value: 1 or 0)                                                   | 寫 edit        |
| 0015H    | 氣壓校正斜率微調範圍: -25~25 (實際-2.5 ~ 2.5 , 單位%)                                        | Air pressure adjustment slope range: -25~25 actual -2.5~2.5, unit %                              | 保留 reserve    |
| 0016H    | FW版本號                                                                          | FW version                                                                                       | 讀 read        |
| 0017H    | 設定氣壓觸發值 P or L:依照數顯壓力表當前 模式、單位做設定。有號數                                          | To set air pressure trigger value Por L: base on DPS mode and unit to set, with number           | 讀/寫 read/edit |
| 0018H    | 設定氣壓觸發值 H:依照數顯壓力表當前 模式、單位做設定。有號數                                               | To set air pressure trigger value H: base on DPS mode and unit to set, with number               | 讀/寫 read/edit |

**(10)異常代碼說明 Abnormal code**

| 異常代碼 Abnormal code | 說明                 | Description                                                  |
|--------------------|--------------------|--------------------------------------------------------------|
| 0x31               | 讀/寫錯誤(部份功能 只讀或 只寫) | Read/ edit mistake (partial function only read or only edit) |
| 0x32               | 功能碼輸入錯誤            | Function code input mistake                                  |
| 0x33               | 資料內容錯誤或設定值超出範圍     | Data mistake or setting over range                           |