

## [DSC series] [Single phase by single wire / 單相單線式]

| Model                  | 型號    | DSC-240                           | DSC-340 | DSC-440 | DSC-265                            | DSC-365 | DSC-465 |
|------------------------|-------|-----------------------------------|---------|---------|------------------------------------|---------|---------|
| Operating voltage      | 工作電壓  | 220VAC                            | 380VAC  | 440VAC  | 220VAC                             | 380VAC  | 440VAC  |
| Rated current          | 額定電流  | 32A max.                          |         |         | 65A max.                           |         |         |
| Protection fuse        | 保險絲   | 32A (Semi-conduct fuse inside)    |         |         | 80A (Semi-conduct fuse inside)     |         |         |
| Surge current duration | 耐突波電流 | 410A / 1 cycle of power frequency |         |         | 1500A / 1 cycle of power frequency |         |         |
| Alarm output           | 警報輸出  | 3A/250VAC ; NO/NC changeable      |         |         | NON                                |         |         |
| Cooling fan            | 冷卻風扇  | non                               |         |         | 60x60 12VDC                        |         |         |
| Min. block voltage     | 最低耐壓  | 600VAC (repetitive)               |         |         | 800VAC (repetitive)                |         |         |

## [TSC series]

| Model                  | 型號    | TSC-340                           | TSC-365                            |
|------------------------|-------|-----------------------------------|------------------------------------|
| Rated current          | 額定電流  | 40A max.                          | 65A max.                           |
| Protection fuse        | 保險絲   | 40A (Semi-conduct fuse inside)    | 80A (Semi-conduct fuse inside)     |
| Surge current duration | 耐突波電流 | 410A / 1 cycle of power frequency | 1500A / 1 cycle of power frequency |
| Min. block voltage     | 最低耐壓  | 600VAC (repetitive)               | 800VAC (repetitive)                |
| Alarm output           | 警報輸出  | non                               |                                    |
| Cooling fan            | 冷卻風扇  | 80x80 / 12VDC                     |                                    |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz            |                                    |
| Aux. power supply      | 輔助電源  | 90 ~ 265 VAC 50 / 60Hz            |                                    |

## [EPS series] [Single phase by two wires / 單相兩線式]

| Model                  | 型號    | EPS1-40                       | EPS1-60  | EPS1-80  | EPS1-100  | EPS1-125  | EPS1-150    |
|------------------------|-------|-------------------------------|----------|----------|-----------|-----------|-------------|
| Rated current          | 額定電流  | 40A max.                      | 60A max. | 80A max. | 100A max. | 125A max. | 150A max.   |
| Protection fuse        | 保險絲   | 40A.                          | 63A.     | 80A.     | 100A.     | 125A.     | 160A.       |
| Surge current duration | 耐突波電流 | 410A                          | 1200A    | 1500A    | 1600A     | 2000A     | 2250A       |
| Min. block voltage     | 最低耐壓  | 600VAC                        | 1600VAC  |          | 1600VAC   |           |             |
| Cooling fan            | 冷卻風扇  | 60x60 / 12VDC                 |          |          |           |           | 80x80/12VDC |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz        |          |          |           |           |             |
| Aux. power supply      | 輔助電源  | 220 / 380 VAC ± 20% 50 / 60Hz |          |          |           |           |             |

## [EPS series] [Dual phases by two wires / 兩相兩線式]

| Model                  | 型號    | EPS2-40                       | EPS2-60  | EPS2-80       | EPS2-100  | EPS2-125  | EPS2-150  |
|------------------------|-------|-------------------------------|----------|---------------|-----------|-----------|-----------|
| Rated current          | 額定電流  | 40A max.                      | 60A max. | 80A max.      | 100A max. | 125A max. | 150A max. |
| Protection fuse        | 保險絲   | 40A.                          | 63A.     | 80A.          | 100A.     | 125A.     | 160A.     |
| Surge current duration | 耐突波電流 | 410A                          | 1200A    | 1500A         | 1600A     | 2000A     | 2250A     |
| Min. block voltage     | 最低耐壓  | 600VAC                        | 800VAC   |               | 1600VAC   |           |           |
| Cooling fan            | 冷卻風扇  | 60x60 / 12VDC                 |          | 80x80 / 12VDC |           |           |           |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz        |          |               |           |           |           |
| Aux. power supply      | 輔助電源  | 220 / 380 VAC ± 20% 50 / 60Hz |          |               |           |           |           |

## [EPS series] [Three phases by three wires / 參相參線式]

| Model                  | 型號    | EPS3-40                       | EPS3-60  | EPS3-80  |
|------------------------|-------|-------------------------------|----------|----------|
| Rated current          | 額定電流  | 40A max.                      | 60A max. | 80A max. |
| Protection fuse        | 保險絲   | 40A.                          | 63A.     | 80A.     |
| Surge current duration | 耐突波電流 | 410A                          | 1200A    | 1500A    |
| Min. block voltage     | 最低耐壓  | 600VAC                        | 800VAC   |          |
| Cooling fan            | 冷卻風扇  | 80x80 / 12VDC                 |          |          |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz        |          |          |
| Aux. power supply      | 輔助電源  | 220 / 380 VAC ± 20% 50 / 60Hz |          |          |



## [TPS series] [Single phases by two wires / 單相兩線式]

| Model                  | 型號    | TPS1-160               | TPS1-200  |
|------------------------|-------|------------------------|-----------|
| Rated current          | 額定電流  | 160A max.              | 200A max. |
| Protection fuse        | 保險絲   | 160A                   | 200A      |
| Surge current duration | 耐突波電流 | 2250A                  | 5400A     |
| Min. block voltage     | 最低耐壓  | 1600VAC                |           |
| Cooling fan            | 冷卻風扇  | 80x80 / 12VDC          |           |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz |           |
| Aux. power supply      | 輔助電源  | 220VAC ± 20% 50 / 60Hz |           |

## [TPS series] [Dual phase by three wires / 兩相參線式]

| Model                  | 型號    | TPS2-100               | TPS2-125  | TPS2-160           | TPS2-200  |
|------------------------|-------|------------------------|-----------|--------------------|-----------|
| Rated current          | 額定電流  | 100A max.              | 125A max. | 160A max.          | 200A max. |
| Protection fuse        | 保險絲   | 100A                   | 125A      | 160A               | 200A      |
| Surge current duration | 耐突波電流 | 1600A                  | 2000A     | 2250A              | 5400A     |
| Min. block voltage     | 最低耐壓  | 1600VAC                |           |                    |           |
| Cooling fan            | 冷卻風扇  | 80 x 80 / 12VDC        |           | 120 x 120 / 230VAC |           |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz |           |                    |           |
|                        | 輔助電源  | 220VAC ± 20% 50 / 60Hz |           |                    |           |

## [TPS series] [Three phases by three wires / 參相參線式]

| Model                  | 型號    | TPS3-40                 | TPS3-60  | TPS3-80  | TPS3-100           | TPS3-125  | TPS3-160  | TPS3-200  |
|------------------------|-------|-------------------------|----------|----------|--------------------|-----------|-----------|-----------|
| Rated current          | 額定電流  | 40A max.                | 60A max. | 80A max. | 100A max.          | 125A max. | 160A max. | 200A max. |
| Protection fuse        | 保險絲   | 40A.                    | 63A.     | 80A.     | 100A.              | 125A.     | 160A.     | 200A.     |
| Surge current duration | 耐突波電流 | 500A                    | 1000A    | 1500A    | 1600A              | 2000A     | 2250A     | 5400A     |
| Min. block voltage     | 最低耐壓  | 1600VAC                 |          |          |                    |           |           |           |
| Cooling fan            | 冷卻風扇  | 80 x 80 / 12VDC         |          |          | 120 x 120 / 230VAC |           |           |           |
| Main power supply      | 負載電源  | 180 ~ 440VAC 50 / 60Hz  |          |          |                    |           |           |           |
| Aux. power supply      | 輔助電源  | 220 VAC ± 20% 50 / 60Hz |          |          |                    |           |           |           |

## General data / 共同規格

|                     |       |                                                                                         |
|---------------------|-------|-----------------------------------------------------------------------------------------|
| Leakage current     | 洩漏電流  | 25 mA max.                                                                              |
| Surge resistance    | 耐突波   | Over 4KV                                                                                |
| Noise resistance    | 耐干擾   | ± 2KV / 1 μs                                                                            |
| Input method        | 輸入方式  | 4~20mA / 0~20mA / 1~5V / 2~10V / 0~5V / 0~10V or VR-10kΩ selectable                     |
| Control method      | 控制方式  | Zero cross control or phase angle control selectable ;<br>Excluding EPS2-□□□ & TPS2-□□□ |
| Output control      | 輸出控制  | Auto output or manual output selectable                                                 |
| Output range        | 輸出範圍  | 0 ~ 100%                                                                                |
| Input resolution    | 輸入解析度 | 0.39%                                                                                   |
| Output low limit    | 輸出下限  | 0 ~ 100% (L.000 ~ L.100) settable                                                       |
| Output high limit   | 輸出上限  | 0 ~ 199% (H.000 ~ H.199) settable                                                       |
| Soft start          | 緩衝起動  | 0 ~ 199 sec (t.00 ~ t.199) settable                                                     |
| Dielectric strength | 電介強度  | Over 2.5KV                                                                              |
| Isolation strength  | 絕緣強度  | Over 100MΩ / 500VDC                                                                     |
| Operating temp      | 使用環境  | - 20°C ~ + 80°C ; 35 ~ 85%RH                                                            |
| Housing material    | 外殼材質  | Intensive PC+ABS (UL-94V0)                                                              |

## Function setting / 功能設定

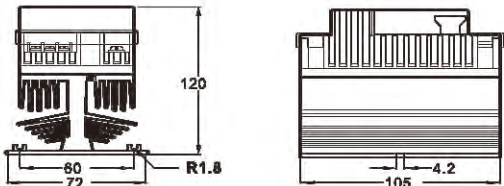
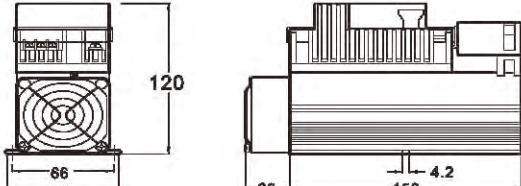
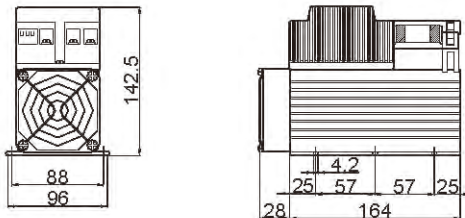
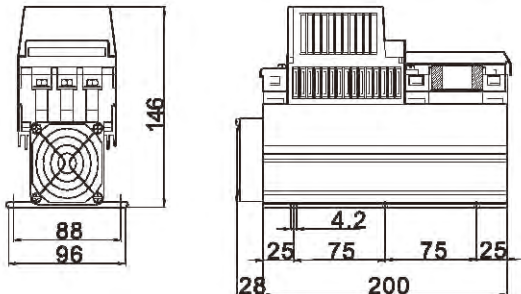
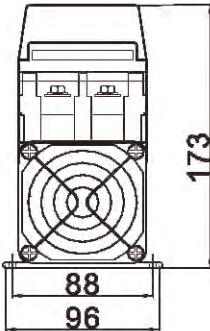
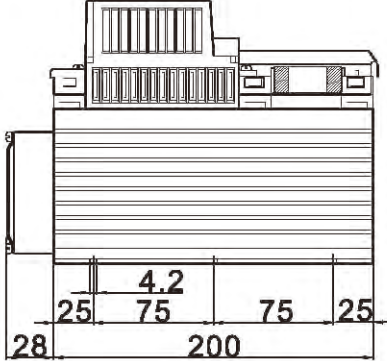
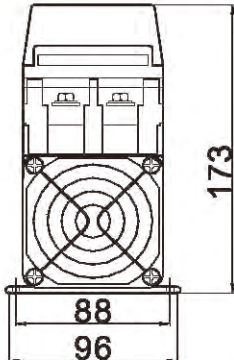
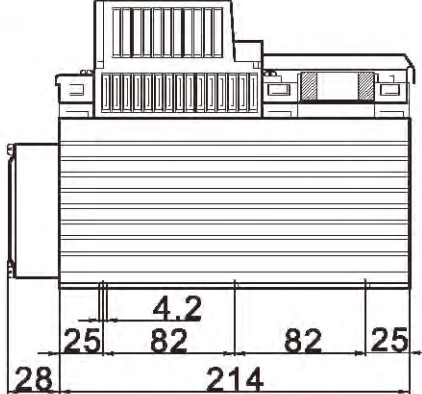
| Status / 狀態                                                                | Symb./顯示符號   | Description / 說明                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Running status</b><br>運轉狀態<br>Press <b>SET</b> & <b>▽</b> Key 3 sec     | <b>R.100</b> | 1> Running status / 運轉狀態<br>2> 「A」 : Output volume / 輸出量<br>3> 「i」 : Output current volume (0.0~i) / 輸出電流量<br>4> 「n」 : Manual output volume / 手動輸出量                                                                              |
| <b>Setting of lock</b><br>鎖住設定<br>Press <b>SET</b> Key ↓                   | <b>Lck.0</b> | 1> 「Lck=0」 : All lock / 全鎖定<br>2> 「Lck=1」 : Data settable / 參數可設定<br>3> 「Lck=2」 : Unlock / 可設定                                                                                                                                   |
| <b>Selection of display</b><br>顯示選擇<br>Press <b>SET</b> Key ↓              | <b>R.050</b> | 1> 「A」 : Output volume (0~100%) / 輸出量<br>2> 「i」 : Output current volume (0.0~i) / 輸出電流量<br>3> 「n」 : Manual output volume (0~100%) / 手動輸出量                                                                                        |
| <b>Selection of input</b><br>輸入選擇<br>Press <b>SET</b> Key ↓                | <b>Int.0</b> | 1> Input type selection : Int.0 ~ Int.6<br>2> 「Int.0」 = [4 ~ 20mA] ; 「Int.1」 = [0 ~ 20 mA] ; 「Int.2」 = [1 ~ 5V]<br>「Int.3」 = [2 ~ 10V] ; 「Int.4」 = [0 ~ 5V] ; 「Int.5」 = [0 ~ 10V]<br>「Int.6」 = Variable resistance (10kΩ) / 可變電阻 |
| <b>Selection of control method</b><br>控制方式選擇<br>Press <b>SET</b> Key 3 sec | <b>Con.0</b> | 1> 「Con.0」 : Zero cross control / 零點控制<br>2> 「Con.1」 : Phase control / 相位控制                                                                                                                                                      |
| <b>Selection of start method</b><br>起動方式選擇<br>Press <b>SET</b> Key         | <b>Str.0</b> | 1> 「Str.0」 = Soft start / 緩衝起動<br>2> 「Str.1」 = Kick start / 脈衝起動                                                                                                                                                                 |

## Data setting / 參數設定

| Status / 狀態                                                                | Symb./顯示符號    | Description / 說明                                                                                                                                    |
|----------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Volume of Output or input</b><br>輸出或輸入量顯示<br>Press <b>SET</b> Key 3 sec | <b>R.100</b>  | 1> Running status / 運轉狀態<br>2> 「A」 : Output volume / 輸出量<br>3> 「i」 : Output current volume (0.0~i) / 輸出電流量<br>4> 「n」 : Manual output volume / 手動輸出量 |
| <b>Setting of min. output</b><br>最小輸出量設定<br>Press <b>SET</b> Key ↓         | <b>L.000</b>  | 1> Range : 0 ~ 100<br>2> Min. output volume setting / 最小輸出量設定                                                                                       |
| <b>Setting of max. output</b><br>最大輸出量設定<br>Press <b>SET</b> Key ↓         | <b>H.100</b>  | 1> Range : 0 ~ 199<br>2> Max. output volume setting / 最大輸出量設定                                                                                       |
| <b>Setting of Max. load current</b><br>最大負載電流量設定<br>Press <b>SET</b> Key ↓ | <b>1.99.9</b> | 1> Range : 0.0~99.9<br>2> Max. load current setting / 最大負載電流量設定                                                                                     |
| <b>Setting of start time</b><br>緩衝起動時間設定<br>Press <b>SET</b> Key 3 sec     | <b>t.010</b>  | 1> Range : 0 ~ 199 sec<br>2> Time of soft start / 緩衝起動時間 或<br>Time of kick start / 脈衝起動時間                                                           |
| <b>Setting of Input offset</b><br>輸入偏差修正<br>Press <b>SET</b> Key           | <b>F.000</b>  | 1> Range : - 99 ~ 99<br>2> Setting of Input offset / 輸入偏差修正                                                                                         |

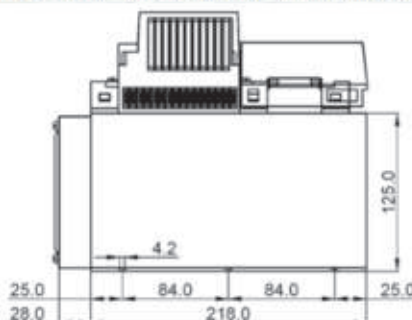
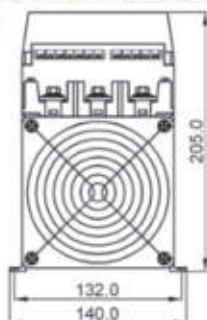


## Outline dimension / 外形尺寸圖

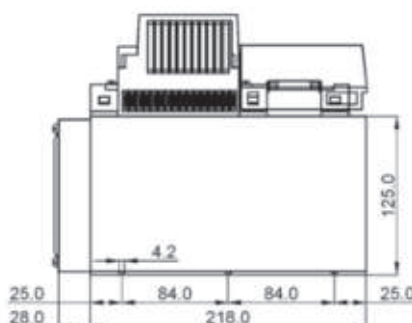
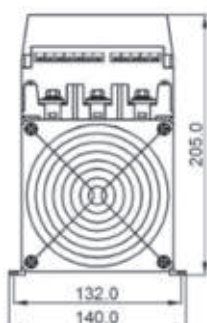
| DSC-□40                                                                             | DSC-□65                                                                              |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |    |
| TSC-340 / TSC-365                                                                   | EPS1-40 / EPS1-60 / EPS1-80<br>EPS1-100 / EPS1-125 / EPS2-40 / EPS2-60               |
|   |   |
| EPS2-80 / EPS2-100 / EPS2-125 / EPS3-40 / EPS3-60 / EPS3-80                         |                                                                                      |
|  |  |
| EPS1-150 / EPS2-150                                                                 |                                                                                      |
|  |  |

### Outline dimension / 外形尺寸圖

TPS1-160 / TPS1-200 / TPS3-40 / TPS3-60 / TPS3-80 / TPS2-100 / TPS2-125

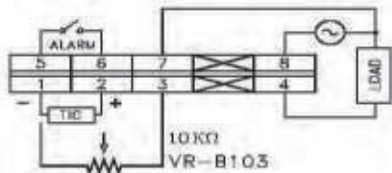


TPS2-160 / TPS2-200 / TPS3-100 / TPS3-125 / TPS3-160 / TPS3-200

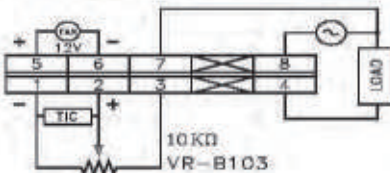


### Connection diagram / 接線圖

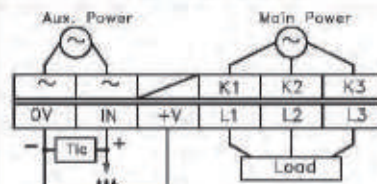
DSC-□40



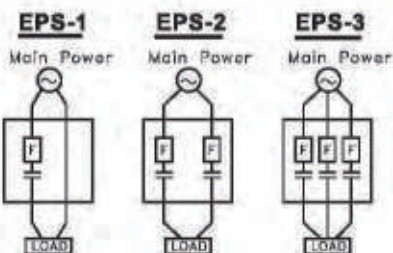
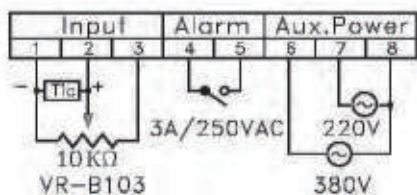
DSC-□65



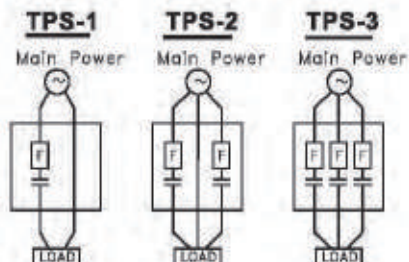
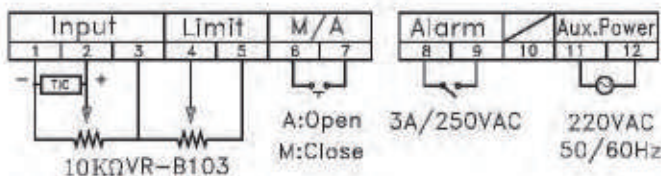
TSC-□□□



EPS-□-□□□

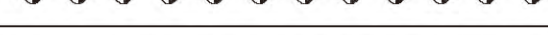
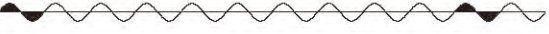
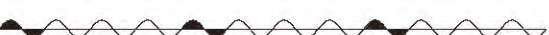
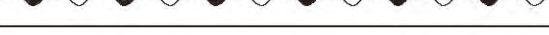


TPS-□-□□□

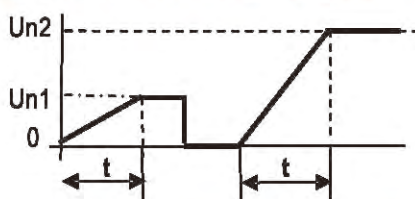




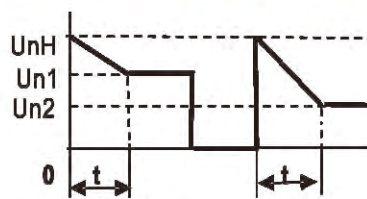
### Illumination of control method / 控制方式說明

| Control method    | Phase angle control 相位控制                                                                                                                                                                                                                                                                                                                         | Zero cross control 零點控制                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output volume 輸出量 | <br><br><br> | <br><br><br> |
| Feature 特性        | 1. Suited to control the inductive load or The variable resistance load (IR, Pure metal heater, Silicone carbonate heater or Transformer)<br>2. The power factor $\cos\theta < 1$<br>3. Higher harmonic noise<br>1. 適於控制電感性或變阻性負載 (紅外線加熱器, 變壓器負載, 純金屬或碳矽發熱體)<br>2. 功率因數小於1<br>3. 較高諧波干擾                                                          | 1. Suited to control the constant resistance load or The capacity load. (Alloy heater or Capacitor)<br>2. The power factor $\cos\theta = 1$<br>3. Lower harmonic noise<br>1. 適於控制定阻性負載或電容性負載 (合金發熱體或電容器負載)<br>2. 功率因數等於1<br>3. 較低諧波干擾                                                                                                                |

### Soft start / 緩衝起動



### Kick start / 脈衝起動

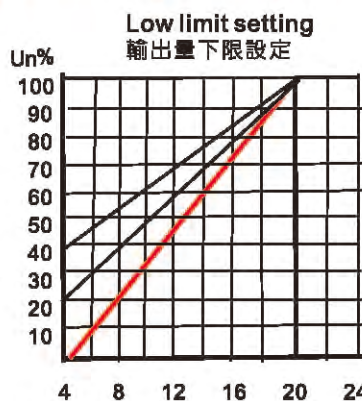


$t$  : Soft or kick start time  
 $Un$  or  $Un2$  : Output volume  
 $UnH$  : Maximum output volume (H)

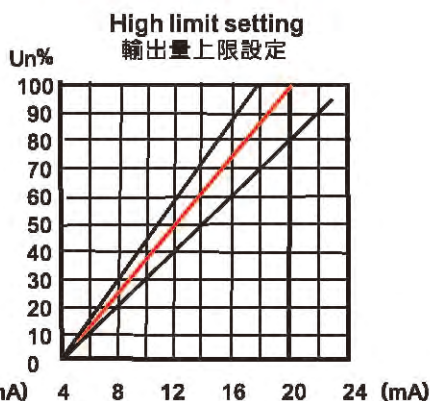
### Setting of manual output / 手動輸出設定

| Manual output status 手動輸出狀態                                                         | Description 說明                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 1. On the 'manual' output status, Press $\Delta$ or $\nabla$ key to change the manual output volume<br>2. Press <b>SET</b> to finish setting<br>1. 在手動輸出狀態中, 按 $\Delta$ 或 $\nabla$ 鍵可改變手動輸出量。2. 按 <b>SET</b> 鍵完成手動輸出量設定。 |

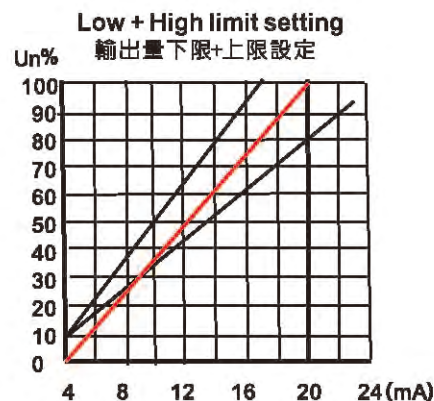
### Setting of output limit / 輸出量限制設定



- 1> A : Low limit = 0 ; High limit = 100  
 2> B : Low limit = 20 ; High limit = 100  
 3> C : Low limit = 40 ; High limit = 100



- 1> A : Low limit = 0 ; High limit = 100  
 2> B : Low limit = 0 ; High limit = 80  
 3> C : Low limit = 40 ; High limit = 120



- 1> A : Low limit = 0 ; High limit = 100  
 2> B : Low limit = 10 ; High limit = 80  
 3> C : Low limit = 10 ; High limit = 120

#### Note :

- 1> 'Un' : Output volume / 輸出量  
 2> Setting range : Low limit = 0 ~ 100% , High limit = 0 ~ 199% / 設定範圍 : 下限設定 = 0 ~ 100% , 上限設定 = 0 ~ 199%  
 3> Low + high limit setting is suited to control the radial heating heater such as IR lamp.  
 輸出量下限+上限設定適用於高輻射熱加熱器如紅外線加熱器。



## Multi-input type / 多種輸入方式選擇

- \* 【Int.0】 : 4 ~ 20 mA    \* 【Int.1】 : 0 ~ 20 Ma    \* 【Int.2】 : 1 ~ 5 V    \* 【Int.3】 : 2 ~ 10 V
- \* 【Int.4】 : 0 ~ 5 V    \* 【Int.5】 : 0 ~ 10 V    \* 【Int.6】 : VR / 10K $\Omega$  (103KB)

## External limit for output volume / 外部限制輸出量[EPS&TPS series]

Please use a Variable resistance (10k $\Omega$ /103KB) to adjust the maximum output volume.  
請用可變電阻 (10k $\Omega$ /103KB) 可調整最大輸出量。

## Trouble shooting / 故障排除

| Alarm 警報 | Description / 說明                                        | Checking / 檢查                                          |
|----------|---------------------------------------------------------|--------------------------------------------------------|
| 【nPEr】   | Fuse break or phase loss<br>保險絲燒毀或欠相或無負載電源              | Please check load or power supply<br>請檢查負載是否短路或保險絲是否燒毀 |
| 【FnEr】   | Cooling fan malfunction<br>冷卻風扇異常                       | Please check the cooling fan<br>請檢查冷卻風扇是否異常            |
| 【OhEr】   | Over heat (120 $^{\circ}$ C)<br>散熱器過熱超過120 $^{\circ}$ C | Please improve cooling condition<br>請改善散熱條件            |

## Notice of safety / 安全注意事項

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|  <b>Warning</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Potentially hazardous situation, if mishandling, may result in death or serious injury.<br/>潛在危險，如果操作失當可能導致死亡或嚴重傷害。</p> |
| <ol style="list-style-type: none"> <li>1) Please confirm the input type and connection method with this controller, if not, it may result in malfunction.<br/>請確認「輸入方式」與本控制器「輸入選擇」是否相符？接線是否正確？否則可能導致本控制器失控。</li> <li>2) Please do not touch any terminal of this controller while power supply is supplied, if do, it may result in electronic shock.<br/>送電中，請勿碰觸本控制器任何接線端子以避免觸電。</li> <li>3) 「Power supply system」 must to be shutdown before renew the fuse, if not, it may result in electronic shock.<br/>更換保險絲前，請務必關閉電源系統以避免觸電。</li> <li>4) Please rated the load current within the specified value, if not, it may result to burn up this controller or fuse.<br/>負載電流請勿超過額定電流，以避免保險絲或本控制器燒毀。</li> <li>5) Please tighten the screw terminal over 100kg-cm, if not, it may result to burn up this controller or fuse.<br/>請務必鎖緊端子螺絲，扭力須超過100kg-cm，否則可能導致本控制器或保險絲燒毀。</li> <li>6) If this controller is burned up, it may be in short circuit condition or malfunction, please settle an independent alarm system to ensure safety protection, if not, it may result in a serious accident.<br/>本控制器燒毀後可能是短路或失控狀態，請加裝獨立警報系統以確保安全，否則可能造成嚴重意外事故。</li> </ol> |                                                                                                                            |