



琦勝企業有限公司

CONCH ELECTRONIC CO.,LTD



固態继电器
Solid State Relay

電力調整器
Power Regulator



固態繼電器 Solid State Relay

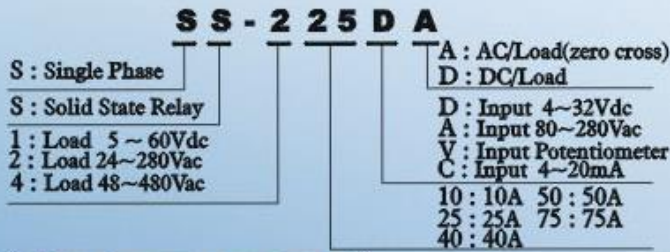
SS- DA, AA TYPE



特點 Features

- 採光耦合隔離,輸入-輸出耐壓強度達4KV
- 零點觸發方式避免電磁/高頻干擾
- 具緩衝迴路可吸收瞬間突波
- 高耐過電流,可應用於燈泡或馬達負載
- 高可靠性適合長時間使用
- Optically Isolated Input-output Isolation over than 4KV
- Low EMI/EFI & Surge by zero cross trigger method
- High surge voltage duration by snubber circuit
- High surge rating allows lamp and motor load switching
- High reliability and long services life

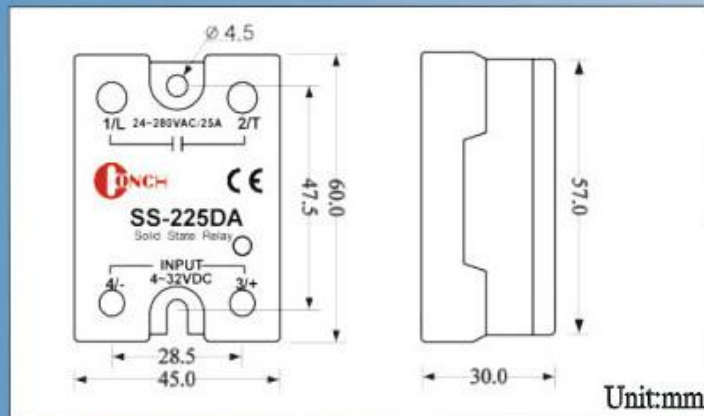
型號說明 Item Explanation



輸出規格 Output Specification

| 型式 Type | SS-DA | | | | | | SS-AA | | |
|------------------------------------|-----------------------|----------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|----------------|
| | 210DA 410DA | 225DA 425DA | 240DA 440DA | 250DA 450DA | 275DA 475DA | 475DAR (SCR) | 210AA 410AA | 225AA 425AA | 240AA 440AA |
| 輸出額定電流(Arms) Rated load current | 10A | 25A | 40A | 50A | 75A | 75A | 10A | 25A | 40A |
| 工作電壓 Operating voltage | 24~280Vac / 48~480Vac | | | | | | 24~280Vac / 48~480Vac | | |
| 峰值電壓 Non rep.peak voltage | 600Vp / 800Vp | | | | | | 600Vp / 800Vp | | |
| 單週最大衝擊電流 1-cycle surge current | 150A | 250A | 400A | 500A | 750A | 750A | 150A | 250A | 400A |
| OFF狀態漏電流(Max) Leakage current | 3mA | 8mA | 8mA | 8mA | 8mA | 8mA | 3mA | 8mA | 8mA |
| ON狀態飽和電壓 On state voltage drop | 1.6V/25°C | | | | | | 1.6V/25°C | | |
| 動作應答時間 Response time | ON<10ms, OFF<10ms | | | | | | ON<20ms, OFF<20ms | | |

尺寸圖 Dimension



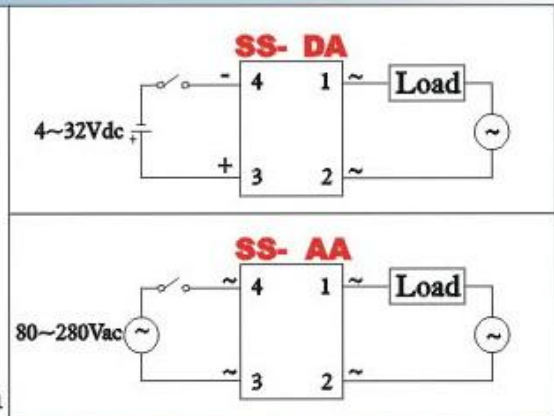
輸入規格 Input Specification

| 型式 Type | SS- DA | SS- AA |
|-------------------------------|---------|-------------|
| 輸入控制範圍 Input Control range | 4~32Vdc | 80~280Vac |
| 輸入電流 Input current | 6~10mA | 10mA/110Vac |
| 最大觸發電壓 Pick-up voltage | 4Vdc | 60Vac |
| 最小復歸電壓 Drop-out voltage | 2Vdc | 40Vac |

一般規格 General Specification

| | |
|---------------------------------------|--------------------------|
| 絕緣強度(輸入-輸出) Isolation strength | >100MΩ |
| 耐壓強度(輸入-輸出) I/O insulation voltage | 4000Vrms |
| 耐壓強度(輸入,出-外殼) Breakdown voltage | 2500Vrms |
| 工作/儲存溫度 Operating/storage | -20°C~80°C / -40°C~100°C |
| 外殼材質 Housing material | PBT |
| 重量 Weight | 110g |

接線圖 Connection Diagram



固態繼電器 Solid State Relay

SS- DD, VA, CA TYPE



特點 Features

DD 響應速度快,可控制一般直流負載如DC電磁閥、DC馬達
Use to control the general DC loading, like DC Solenoid Valves, DC Motor

VA 外接可調電阻可作簡易相位控制,應用於一般燈光調控及馬達調速
Use external contact VR resistor to do simple phase control, which is applied to the normal light control and speed adjustment of motor

CA 配線容易,只需4~20mA控制信號即可,無須輔助電源
Wire connection easily, the user only need 4~20mA control signal, the aux. power is not needed

內含散熱片超溫保護及指示功能
Built-in the overheat protect of heat sink and the indicate function

指示燈說明 Explain of Indicator
輸入信號4mA時綠燈微亮,20mA時全亮
The green indicator will be slight light when input signal is 4mA, and reach the lightest at 20mA
當散熱片溫度高於80°C時變為紅燈且輸出動作停止
當溫度降至70°C以下時紅燈熄滅,輸出繼續運作
If the temperature of heat sink over 80°C, the indicator will be switched to RED Lamp and stop the output process. But, it can continue output when the temperature down to 70°C below

輸出規格 Output Specification

| 型式 Type | SS- DD | | SS- VA | | | SS- CA | | | |
|------------------------------------|-----------|-------|-----------|-------|-------|-----------|-------|-------------|-------|
| | 105DD | 110DD | 210VA | 225VA | 240VA | 225CA | 240CA | 425CA | 440CA |
| 輸出額定電流(Arms) Rated load current | 5A | 10A | 10A | 25A | 40A | 25A | 40A | 25A | 40A |
| 工作電壓 Operating voltage | 5~60Vdc | | 80~280Vac | | | 90~260Vac | | 330V~500Vac | |
| 峰值電壓 Non rep. peak voltage | 150Vp | | 600Vp | | | 600Vp | | 800Vp | |
| 單週最大衝擊電流 1-cycle surge current | 14A | 20A | 150A | 250A | 400A | 250A | 400A | 250A | 400A |
| OFF狀態漏電流(Max) Leakage current | <1mA | | 8mA | 8mA | 8mA | 8mA | 8mA | 8mA | 8mA |
| ON狀態飽和電壓 On state voltage drop | 1.6V/25°C | | 1.6V/25°C | | | 1.6V/25°C | | | |
| 動作應答時間 Response time | <1ms | | — | | | — | | | |

接線圖 Connection Diagram

SS- DD

SS- CA

| 型號 | SS-225,425CA | SS-240,440CA |
|--------|--------------|--------------|
| 長(L) | 100 | 100 |
| 寬(W) | 55 | 55 |
| 高(H) | 75 | 95 |
| 重量(Kg) | 0.48 | 0.64 |

SS- VA

輸入規格 Input Specification

| 型式 Type | SS- DD | SS- VA | SS- CA |
|-------------------------------|---------|--------------------------|--------|
| 輸入控制範圍 Input Control range | 4~32Vdc | 250KΩ/110V 500KΩ/220V | 4~20mA |
| 輸入電流 Input current | 6~10mA | — | — |
| 最大觸發電壓 Pick-up voltage | 4Vdc | — | — |
| 最小復歸電壓 Drop-out voltage | 2Vdc | — | — |

一般規格 General

| | | | |
|---------------------------------------|--------------------------|----------|----------|
| 絕緣強度(輸入-輸出) Isolation strength | >100MΩ | — | >100MΩ |
| 耐壓強度(輸入-輸出) I/O insulation voltage | 4000Vrms | — | 4000Vrms |
| 耐壓強度(輸入,出-外觀) Breakdown voltage | 2500Vrms | 2500Vrms | 2500Vrms |
| 工作/儲存溫度 Operating/storage temp. | -20°C~80°C / -40°C~100°C | | |
| 外觀材質 Housing material | PBT | | |
| 重量 Weight | 110g | | |

電力調整器 Power Regulator

SRL、SRD、SRA TYPE



特點 Features

- 可選擇輸出方式:1.相位控制 2.零位控制
- 可選擇6種輸入訊號 4~20mA, 0~20mA, 1~5V, 0~5V, 2~10V, 0~10V
- 內建FUSE保護,節省空間且更換容易
- 內建散熱片超溫保護及溫度顯示功能
- 內建RS-485通訊功能
- 可顯示輸入命令、輸出電流、輸出百分比、散熱片溫度、異常訊息
- 可設定緩衝啓動時間、過載、輕載準位
- 具備試運轉功能
- 具有異常輸出接點且可設定規劃
- 外接CT時具備SCR打穿、FUSE熔斷、Heater低電流、Heater過電流保護功能
- Output Mode: 1.Phase Trigger Control 2.Zero Cross Trigger Control
- 6 Input signal for option 4~20mA, 0~20mA, 1~5V, 0~5V, 2~10V, 0~10V
- Build-in FUSE protect for saving the space and repair a new one easier
- Built-in overheat protect and temperature indicator of heat sink
- Built-in RS-485 communication function
- Can be displayed Input Commands, Output Current, Output Percentage, The Temperature of Heat Sink and Error Message
- Can set the cushion start time, overload and underload level
- Have the function of test running
- Build-in the function of error output contact and plan
- If the user connect CT, which will have the function of Thyristor puncture, FUSE melting, Heater wire-burn and Heater overload protect
- Happen the function of Thyristor, Fuse, Heater and overload protect when user outside contact CT

型號說明 Item Explanation

| SRL 2 025 | | | |
|-----------------------|---|------------|------------|
| 型號 Model | SRL 標準型 STANDARD TYPE | | |
| | SRD 顯示型(含顯示) DISPLAY TYPE (INCLUDED DISPLAY) | | |
| | SRA 全功能型(含顯示、通訊、偵錯) FULL (INCLUDED DISPLAY, COMMUNICATION, DETECT ERROR) | | |
| 額定電壓 Rated Voltage | 1 AC 110V | | |
| | 2 AC 220V | | |
| | 3 AC 380V | | |
| | 4 AC 440V | | |
| 額定電流 Rated Current | 018 18A | FUSE 選用 | FWC-25A10F |
| | 025 25A | | FWC-32A10F |
| | 035 35A | | 50LET/50FE |
| | 045 45A | | 63LET/63FE |
| | 060 60A | | 80LET/80FE |

模式選擇 Mode Select

| 控制模式 Control Mode | 輸入信號 Input Signal | S4 | S3 | S2 | S1 | 標示 Indicator |
|---------------------------------------|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|
| 相位控制 Phase Trigger Control | 0~5V | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> : ON |
| | 1~5V | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> : OFF |
| | 0~10V | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 2~10V | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 0~20mA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 4~20mA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | → 出廠預設 Default |
| 零位控制 Zero Cross Trigger Control | 0~5V | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | 1~5V | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 0~10V | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | 2~10V | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 0~20mA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | 4~20mA | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

規格 Specification

| | |
|---|---|
| 電源電壓 Power Supply | 單相(110、220、380、440V)±15% 50/60HZ Single Phase (110, 220, 380, 440) ±15% 50/60Hz |
| 額定電流 Rated Current | 18A, 25A, 35A, 45A, 60A |
| 控制方式 Control Mode | 相位控制/零位控制(可切換) Phase Control/ Zero Control (please switch to another mode) |
| 輸入信號 Input Signal | 0~5V, 1~5V, 0~10V, 2~10V, 0~20mA, 4~20mA |
| 輸出控制範圍 Output Control Range | 0~99% |
| 解析度/線性度 Resolution/Linear | 0.4% / 1% |
| 冷卻方式 Cooling Way | 自然冷卻(若盤內溫度過高時須加裝風扇) Nature cooling (if the inside temperature is overheat, please build-in the fans) |
| 環境溫度/濕度 Ambient Temperature/ Humidity | -10~+50° C / 90% RH 以下 -10~+50° C / under 90%RH |
| 耐壓強度 Hi-pot Test | AC2000V/1分鐘(電源端、訊號端及散熱片間) AC2000V/1 min. (between the power/signal terminal and heat sinks) |
| 耐雜訊 Noise Susceptibility | 2KV 5KHZ |
| 絕緣阻抗 Isolation Resistor | 20MΩ以上/500V(電源端、訊號端及散熱片間) over 20MΩ/50V (between the power/signal terminal and heat sinks) |
| 外殼材質 Housing material | ABS (UL94V) |

輸出方式及應用 Output Mode and Application

| 相位控制 Phase Trigger Control | 10% | 50% | 90% |
|---|-----|-----|-----|
| | | | |
| 優點: ● 可適用於定電阻、變電阻負載及燈光調控 ● 連續性輸出無斷續現象 | | | |
| 缺點: ● 觸發時會產生諧波干擾 | | | |
| Advantage: ● Can be applied to any kind of loading current ● Not happen the phenomenon of OFF and ON when it continue output | | | |
| Disadvantage: ● It will produce a noise of harmonics when intrigue | | | |
| 零位控制 Zero Cross Trigger Control | 10% | 50% | 90% |
| | | | |
| 優點: ● 不會產生諧波干擾 ● 無半波成分可達最高之功率因數 | | | |
| 缺點: ● 只適用於定電阻發熱體 ● 輸出時電流錄呈抖動現象 ● 易造成發熱體老化 | | | |
| Advantage: ● Not produce the third noise of harmonics ● No component of half wave can be reached the highest power factor | | | |
| Disadvantage: ● only suitable to fixed resistor heater ● Amper meter shows shivering status when output ● Easy to cause the heater aging | | | |

注意事項 Note

- 若輸入為VR調整時,輸入信號須設為0~5V位置
If input mode is VR adjustment, please set input signal on 0~5V
- 變更模式設定或更換保險絲時請先將電源關閉以避免觸電危險
Change the setting of mode or replace the fuse, please turn the power off in advance to prevent the damage of receive an electric shock
- 變更設定需重新開機始為有效
Please reboot it after changing the setting

面板說明 Panel explanation



MODE 模式切換(MODE)Mode Switch
ESC 離開模式(ESC)Out of this mode

↑ 選擇增加模式
Asc. mode for option
增加數值(+1) Value be increased 1

↓ 選擇減少模式
Asc. mode for option
減少數值(-1) The value be decreased 1

SEL 進入模式選項 確定時需按
1秒以上
Enter the option of mode, hold this key
over 1 second to enter
your demand mode

● **RUN** 運行指示燈
Indicator of Run

● **COMM** 通訊指示燈
Indicator of Comm.

顯示模式 Display Mode d.00~d.01

| | |
|------|--|
| d.00 | 輸出百分比 Output Percentage 0-99% |
| Cmd | 輸入命令 Input Command 0-20.0mA, 0-10.0V |
| Hot | 散熱片溫度 Temperature of Heat Sink |
| CUr | 輸出電流 Output Current 0.0-99.9A |

d.01 故障層層 Failure Resume 紀錄3筆 3 Records

在故障層層狀態下按下
會清除故障層層

在顯示狀態下按下
會顯示名稱標示

參數編碼模式 Parameter setting mode P.00~P.12

| | | |
|-----|---|------|
| E00 | 輸入命令選擇 Input Command Option 0-5,1-5,0-10,2-10,0.20,4.20 | 4-20 |
| E01 | 緩衝啟動時間 Cushion Start Time 0-99 S | 10 |
| E02 | 反應速度時間 Response Speed Time 0.0-10.0 S | 1.0 |
| E03 | 最大值設定 Max. Value Setting 0-100 % | 100 |
| E04 | 最小值設定 Min. Value Setting 0-20 % | 0 |
| E05 | 異常復歸功能 The function of error return 手動復歸,自動復歸 by manual or auto. | ATO |
| E06 | 輸出接點設定 Output contact setup NO,NC,風扇控制 Fan control | NO |
| E07 | 過載設定 Overload setup 50-125 % (125=OFF) | 100 |
| E08 | 輕載設定 Underload setup 0-50 % (0=OFF) | 30 |
| E09 | 機種選擇 Machine for option 18A,25A,35A,45A,60A | 18A |
| E10 | 通訊位址 Comm. address 1-250 | 1 |
| E11 | 通訊速率 Comm. frequency 9.6,19.2 KBPS | 9.6 |
| E12 | 通訊格式 Comm. format 8n1,8n2,8o1,8E1 | 8n1 |

測試模式 Testing Mode t.00~t.02

| | |
|------|---------------------|
| t.00 | 手動測試 Manual Test |
| t.01 | 自動測試 Auto Test |
| t.02 | 自我測試 Self Test |

異常顯示 Error Indicator E.01~E.07

| | |
|------|--|
| E.01 | 過電流 (額定1.5倍) Over current 1.5 times of the rated load current |
| E.02 | 電源異常 (額定±30%) Power failure over ±30% of the rates loading |
| E.03 | 過載 (>P07設定) Overload |
| E.04 | 過熱 (>80°C) Overheat |
| E.05 | 風扇 Heater斷線 |
| E.06 | SCR击穿 Puncture |
| E.07 | 過載 (<P08設定) Under load |

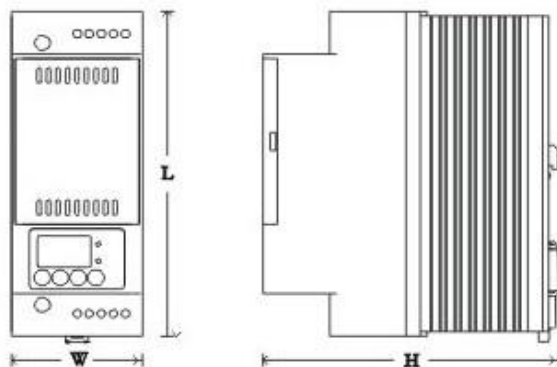
手動模式下按 ↑ ↓ 可
改變輸出大小

Under the manual model,
please press this key to
change the output value

外觀尺寸 Dimension

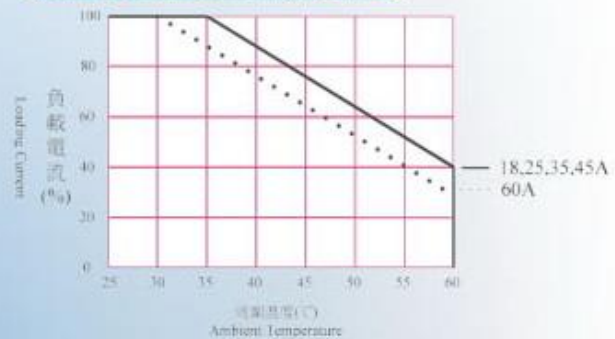
| | | | | | |
|----------------|-----|-----|-----|-----|-----|
| 電流 Current | 18A | 25A | 35A | 45A | 60A |
| 長 Length (L) | 145 | 145 | 145 | 145 | 145 |
| 寬 Width (W) | 55 | 55 | 55 | 55 | 55 |
| 高 Height (H) | 105 | 105 | 125 | 165 | 165 |
| 重量 Weight (Kg) | 0.8 | 0.8 | 1.0 | 1.4 | 1.4 |

Unit:mm

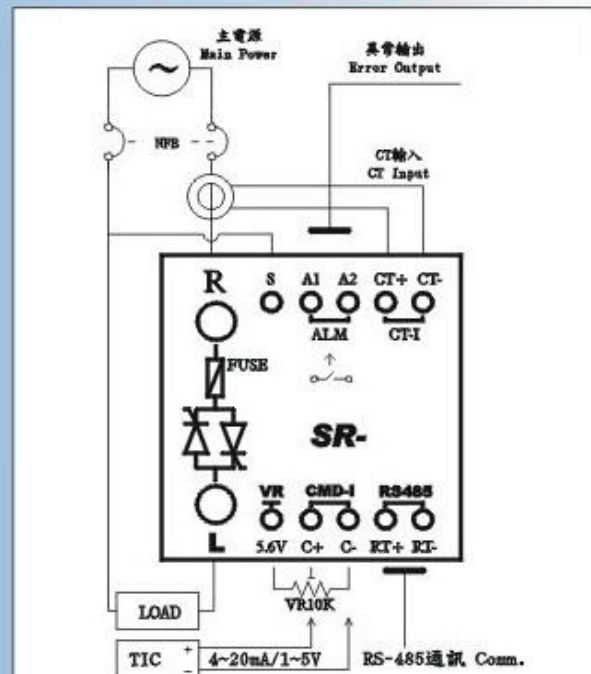


負載&周溫曲線圖

Loading Current & Ambient Temperature



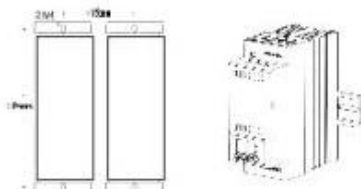
接線圖 Connection Diagram



| 端子 Terminal | R, L | | | | | 信號端子 Signal Terminal |
|------------------------------|------|-------|-------|-----|------|--|
| | 18A | 25A | 35A | 45A | 60A | |
| 線徑(mm2) Dimension of Line | 2 | 3.5 | 5.5 | 8 | 14 | AWG 16-20 制線長度5mm Exhausted Length 5mm |
| Y型端子 Y Type Terminal | 2-5 | 3.5-5 | 5.5-5 | 8-5 | 14-6 | |

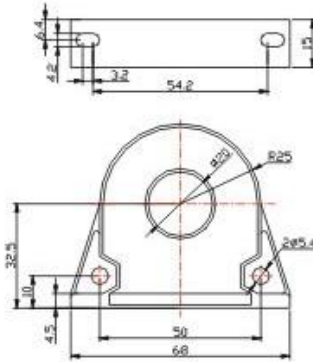
安裝說明 Install Ways

| 固定方式 Install Ways | 可選擇鉗軌或雙螺絲固定 Double Screws or Rail Style for option |
|----------------------|--|
| 注意事項 Note | <ul style="list-style-type: none"> 採用直式安裝方式,可達最佳之散熱效果 注意間隔距離,以確保最佳散熱能力(>20mm) 上下方需有足夠通風距離(>150mm) 控制箱須有通風孔,並加裝風扇以利空氣對流 若箱內溫度較高時請低於額定之70%使用 |
| | <ul style="list-style-type: none"> Used the vertical install way to reach the best radiation effect Pay attention on the gap distance between two heatsuff to make sure the best radiation ability (>20mm) It is necessary to have the enough ventilate distance for up and down side (>150mm) Control box is built-in the ventilate hole and fan for air smooth connection If the inside temperature of box is higher, please use max. 70% rated current |



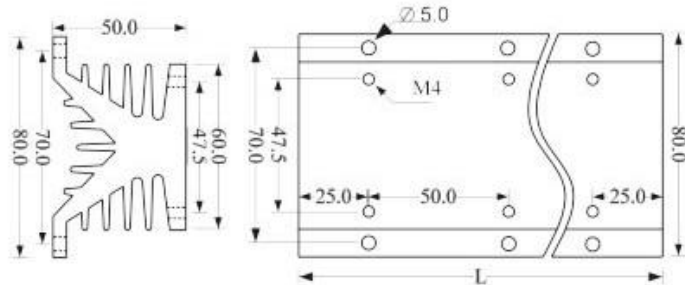
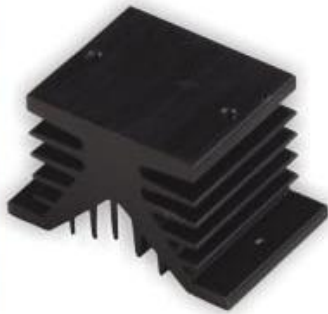
附件選配

Accessory Part for Option

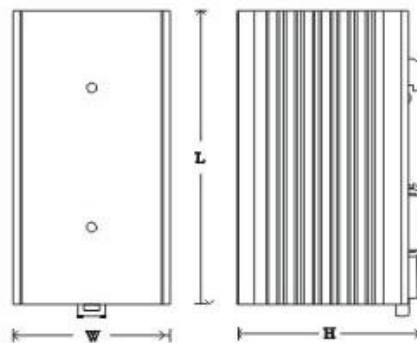


| | |
|------------------------------|-------------|
| 電流互感器 Current Transformer | |
| 型號 Model | CT103-2120A |

| | | | | | |
|--|-----|-----|-----|-----|-----|
| Primary Current(Arms) | 10 | 20 | 100 | 150 | 200 |
| Secondary Output Voltage for 100ohm Load | 0.4 | 0.8 | 4.0 | 6.0 | 8.0 |



| | | | | |
|------------------------|--------|---------|---------|---------|
| 型號 Model | HS-50L | HS-100L | HS-150L | HS-200L |
| 長度(mm) Length | 50 | 100 | 150 | 200 |
| 安裝數量 Assembled Q'ty | 1 | 2 | 3 | 4 |



| | | | |
|-------------|--------|--------|---------|
| 型號 Model | HC-40H | HC-60H | HC-100H |
| 長(L) | 100 | 100 | 100 |
| 寬(W) | 55 | 55 | 55 |
| 高(H) | 40 | 60 | 100 |

Unit:mm



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