

高端電源新品 應用發表會



主講人

資深應用工程師 吳振源





高端電源產品規格與注意事項

吳振源 資深應用工程師 | 技服中心

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2021/3/31

MEAN WELL

HAVE GOOD INTENTIONS

YOUR RELIABLE POWER PARTNER



**1 NMP1K2/650
2 UMP-400
3 BIC-2200**

MEAN WELL

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YOUR RELIABLE POWER PARTNER



NMP1K2/650

MEAN WELL

HAVE GOOD INTENTIONS

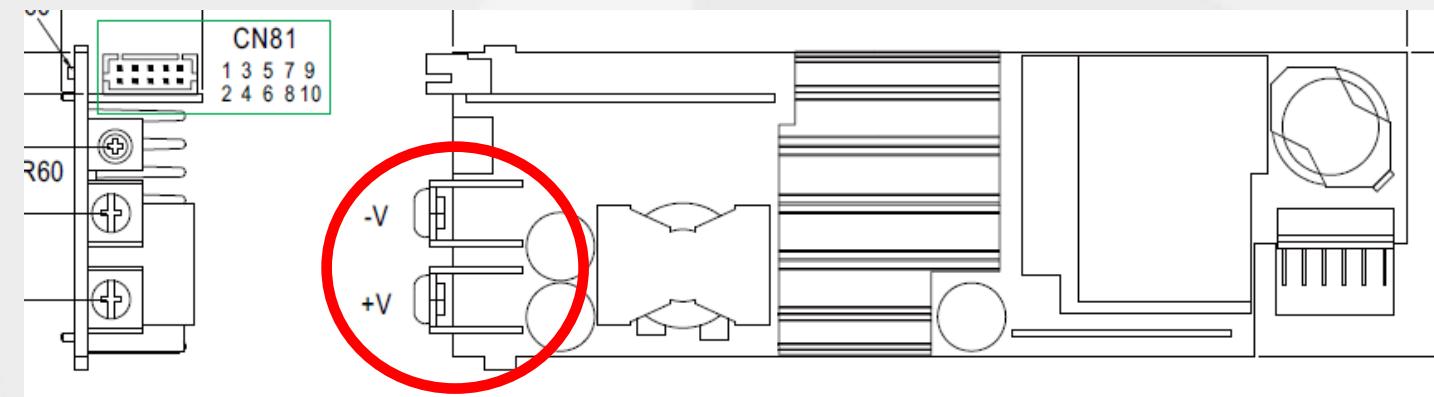
YOUR RELIABLE POWER PARTNER

大綱

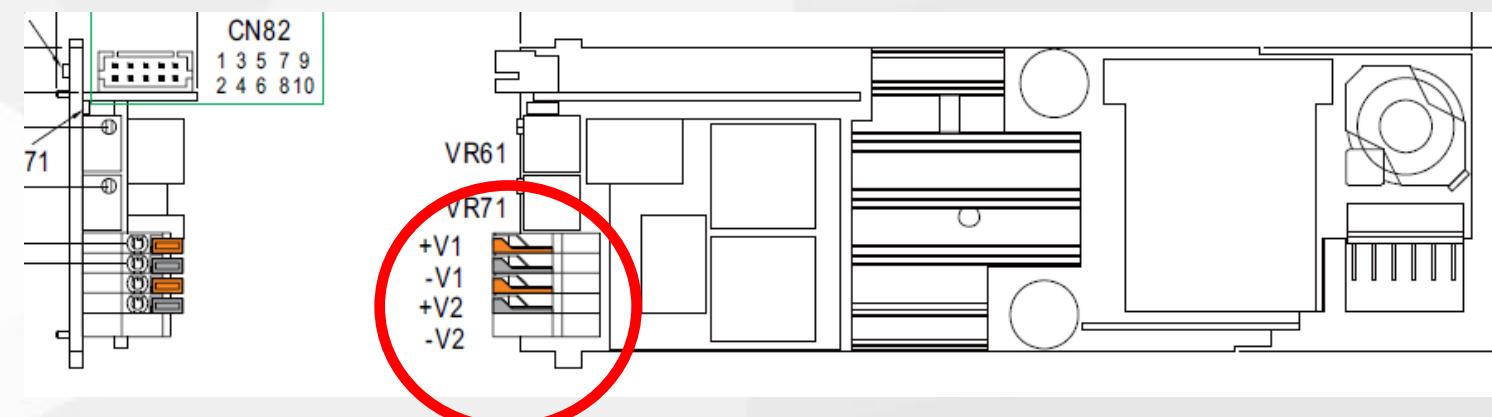
- ◆ 功能介紹
- ◆ 如何挑選型號與配件
- ◆ 噪音問題解決方案

NMS-240與NMD-240差異

- ◆ 輸出端子與+V/-V位置不同



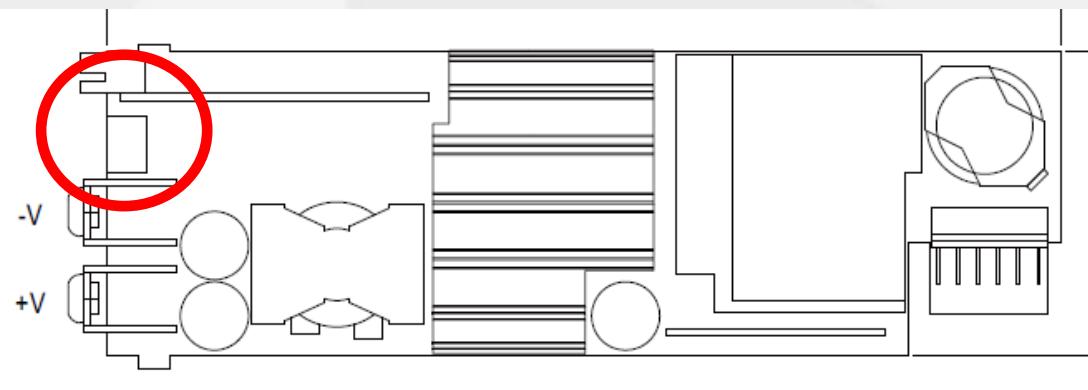
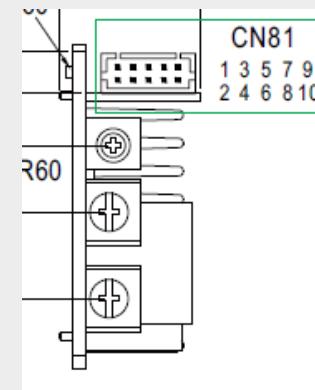
NMS



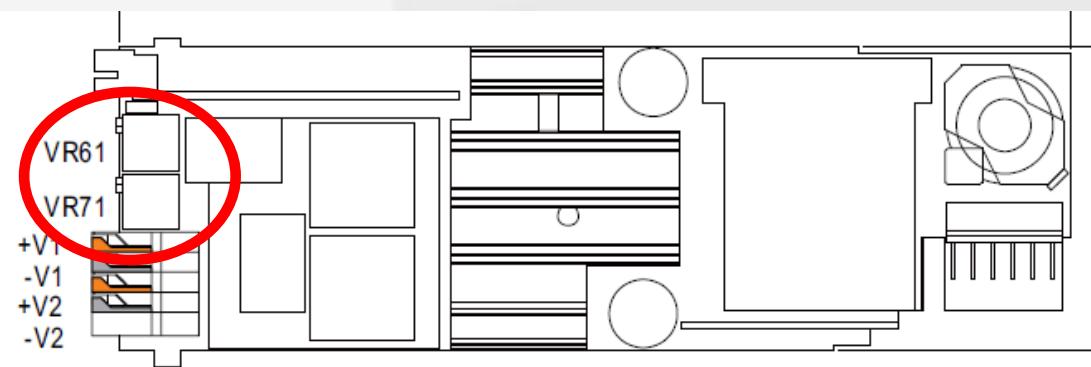
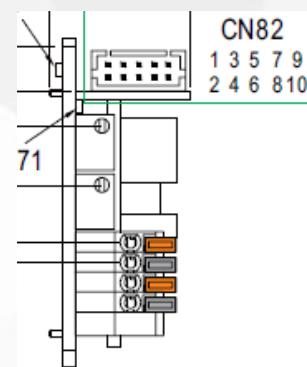
NMD

NMS-240與NMD-240差異

◆ 可調電壓VR不同



NMS

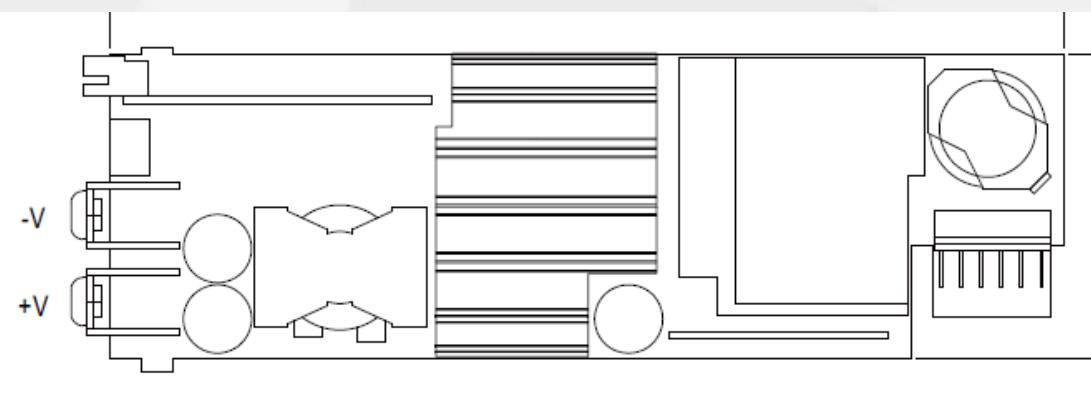
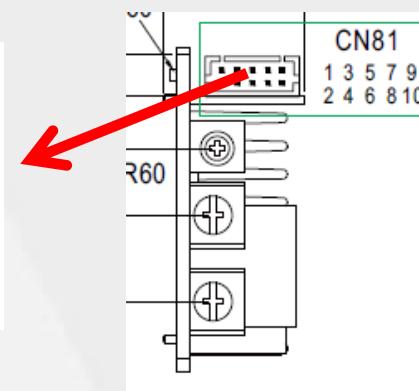


NMD

NMS-240與NMD-240差異

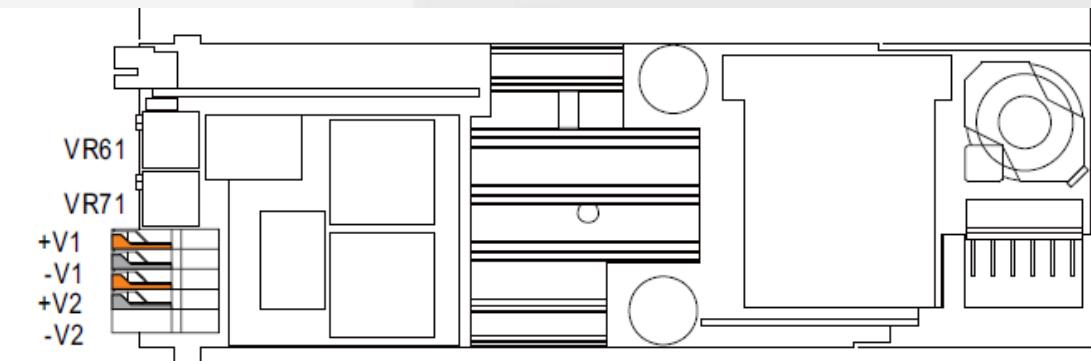
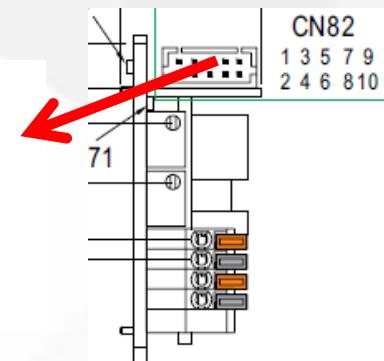
◆ 腳位功能不同

1				9
GND	RC2	DC_OK	PC	+S
GND	VCC2	CS	PV	-S
2				10



NMS

1				9
GND1	RC2	DC_OK1	NC	NC
GND2	RC3	DC_OK2	NC	NC
2				10

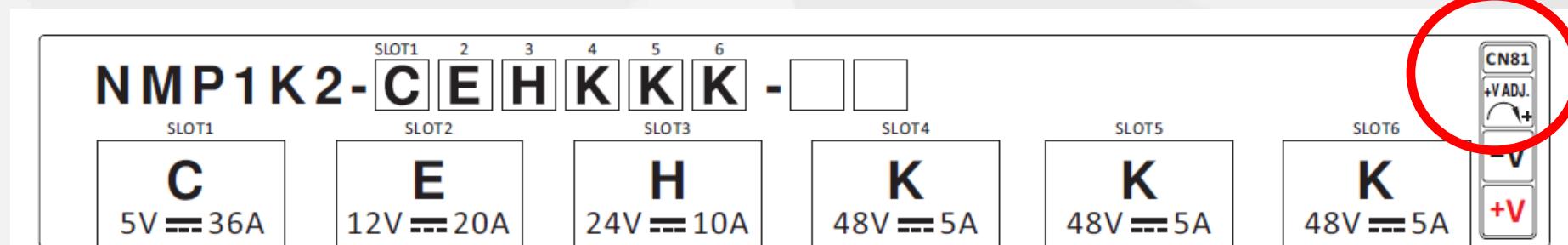


NMD

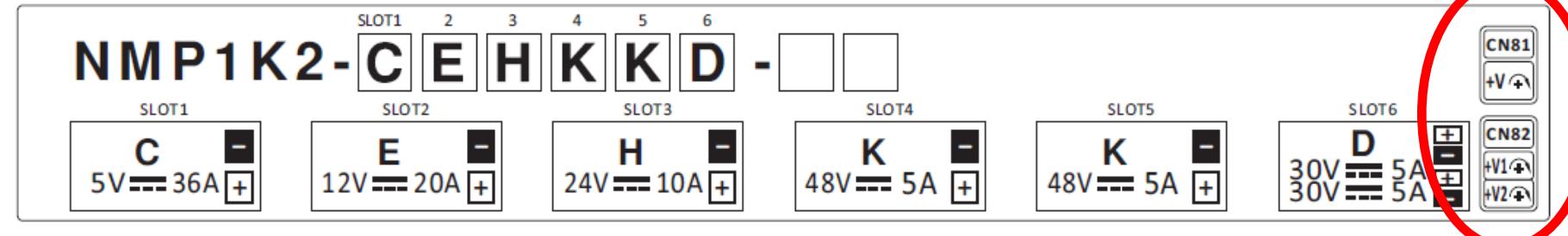
貼紙新舊版差異

◆CN81、CN82、VR ADJ位置差異

舊版



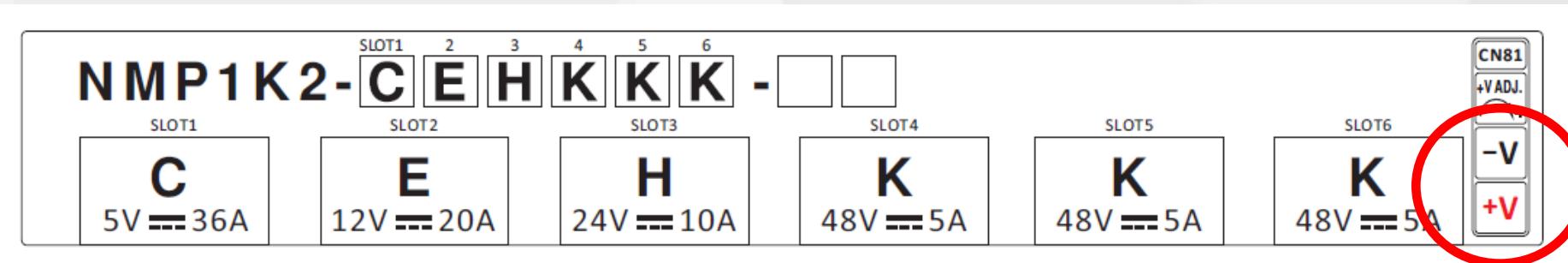
新版



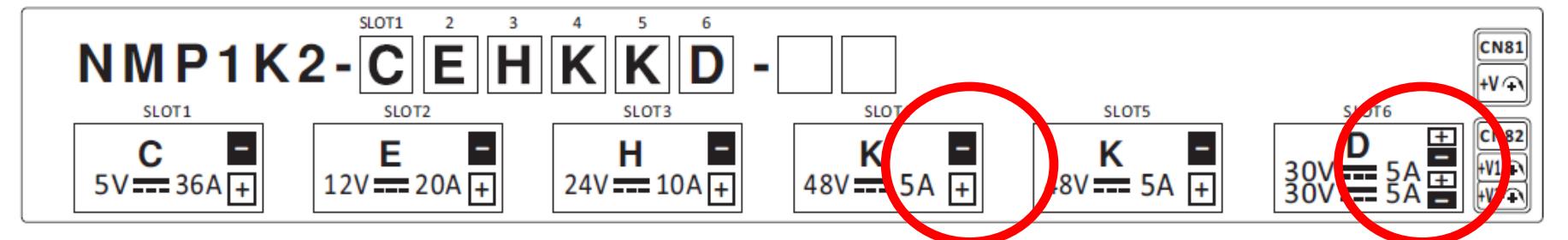
貼紙新舊版差異

◆ +V/-V位置差異

舊版



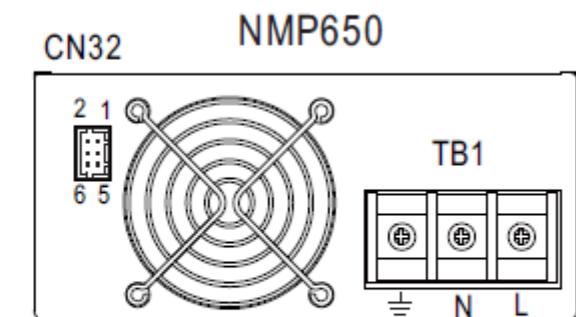
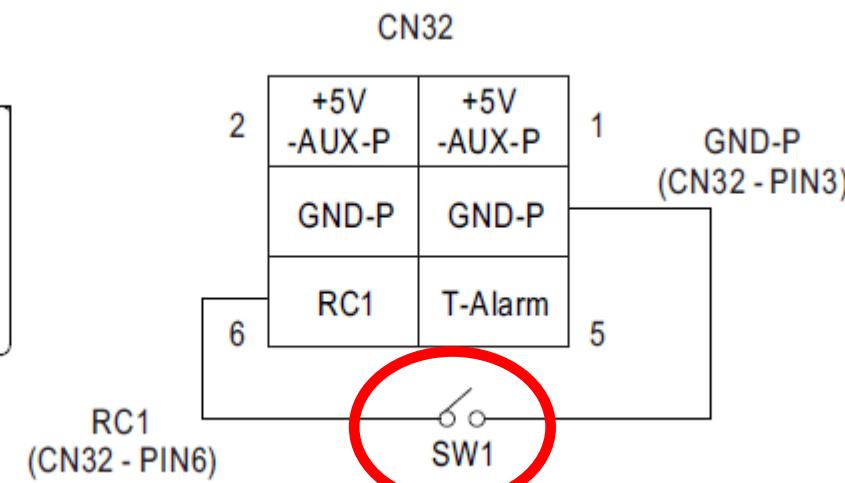
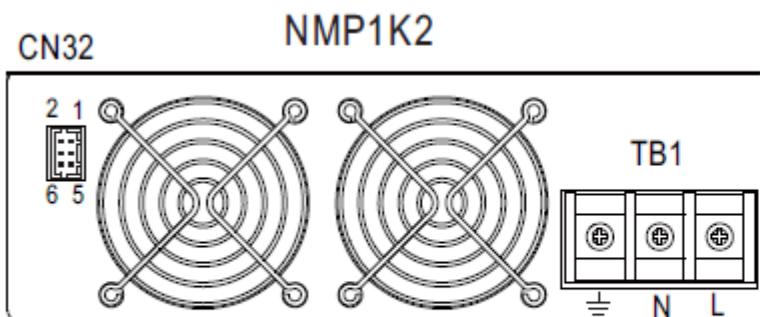
新版



ON/OFF控制

◆ 整機ON/OFF控制

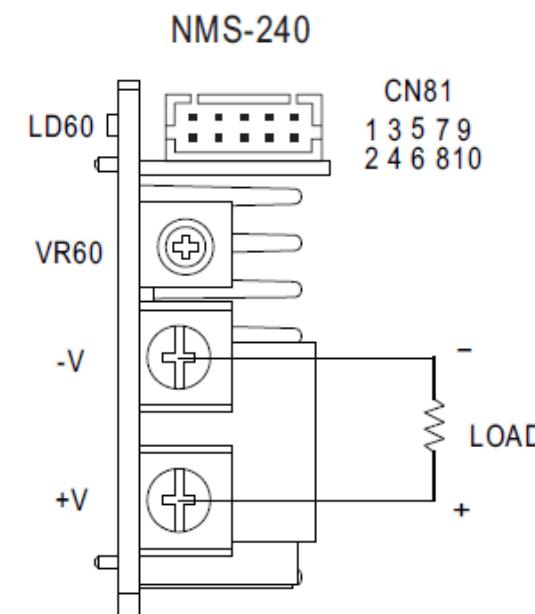
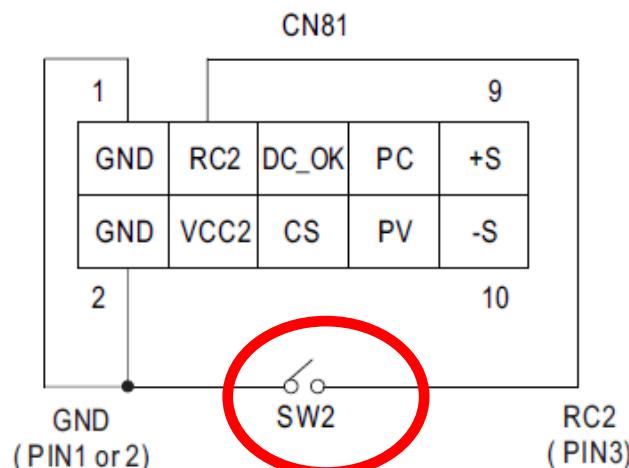
Between RC1 (CN32-PIN6) and GND-P (CN32-PIN3)	Output Status
SW1 ON (short)	ON
SW1 OFF (open)	OFF



ON/OFF控制

◆ NMS-240 ON/OFF控制

Between RC2 (CN81 PIN3) and GND (CN81 PIN1 or 2)	Output Modules Status (NMS-240)
SW2 OFF (open)	ON
SW2 ON (short)	OFF

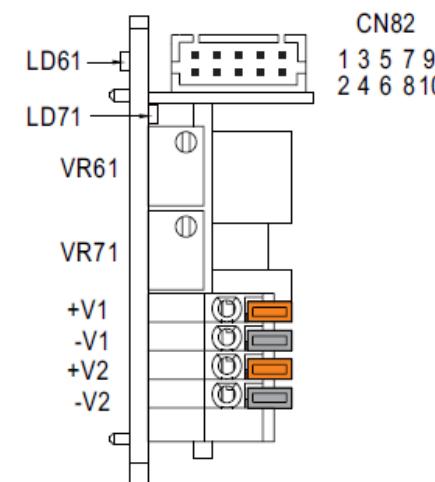
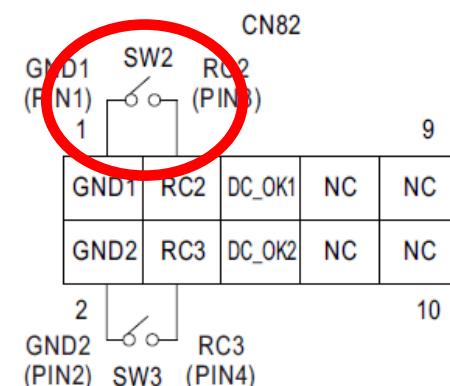


ON/OFF控制

◆ NMD-240 ON/OFF控制

Between RC2 (CN82-PIN5) and GND1 (CN82-PIN1)	Output Modules Status (V1)
SW2 OFF (open)	Output V1 ON
SW2 ON (short)	Output V1 OFF

Between RC3 (CN82-PIN4) and GND1 (CN82-PIN2)	Output Modules Status (V2)
SW3 OFF (open)	Output V2 ON
SW3 ON (short)	Output V2 OFF

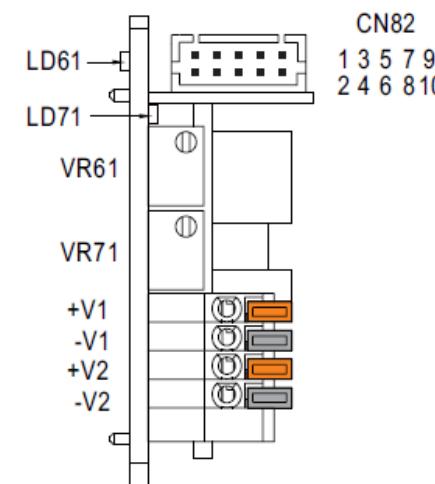
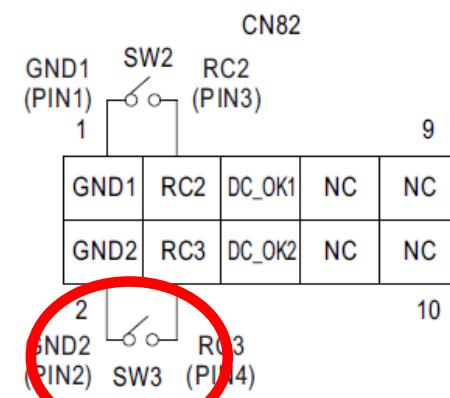


ON/OFF控制

◆ NMD-240 ON/OFF控制

Between RC2 (CN82-PIN3) and GND1 (CN82-PIN1)	Output Modules Status (V1)
SW2 OFF (open)	Output V1 ON
SW2 ON (short)	Output V1 OFF

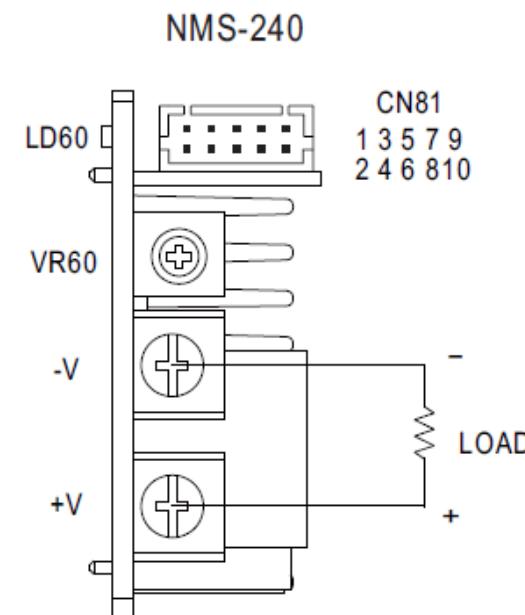
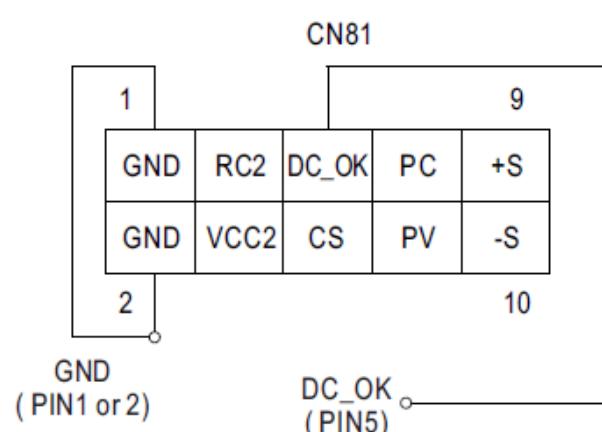
Between RC3 (CN82-PIN4) and GND1 (CN82-PIN2)	Output Modules Status (V2)
SW3 OFF (open)	Output V2 ON
SW3 ON (short)	Output V2 OFF



DC OK訊號

◆ NMS-240 DC OK訊號

Between DC OK (PIN5) and GND (PIN1 or 2)	Output Modules Status (NMC-240)
4.5~5.5V	ON
0~0.5V	OFF

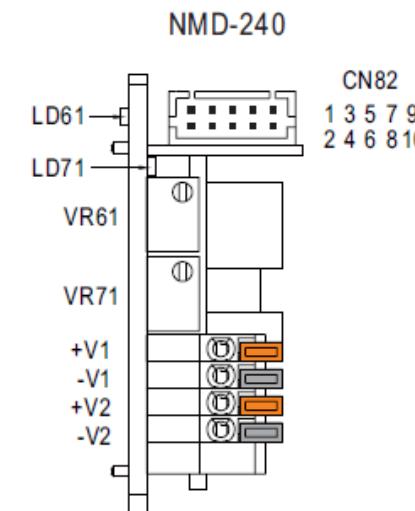
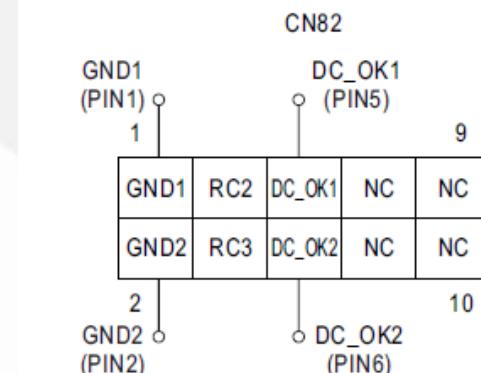


DC OK訊號

◆ NMD-240 DC OK訊號

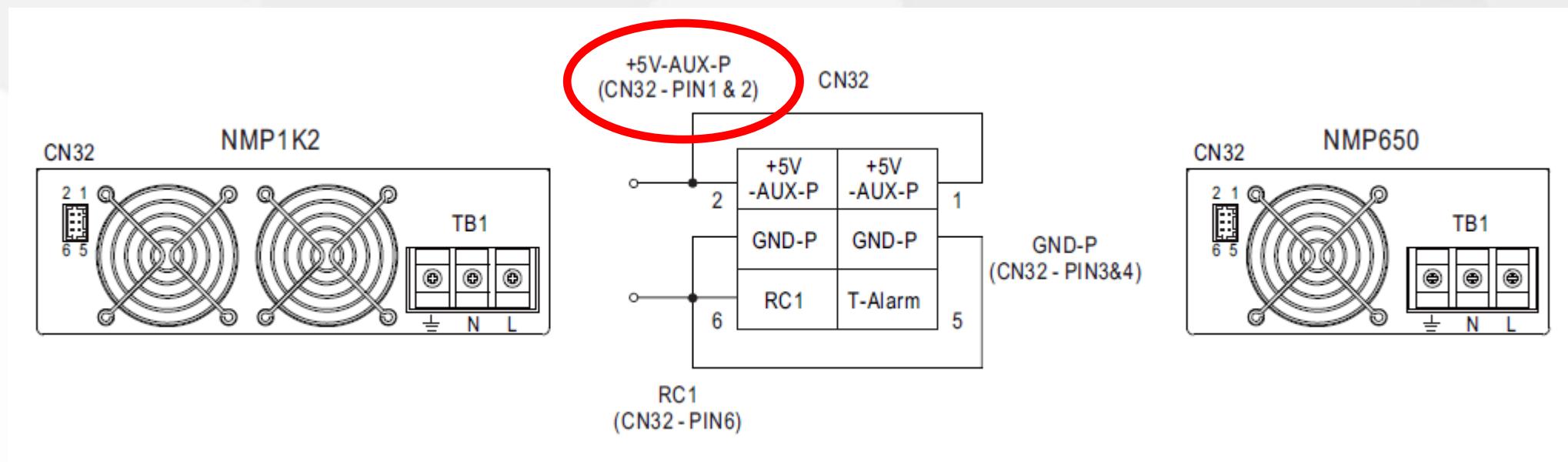
Between DC_OK1 (PIN5) and GND1 (PIN1)	Output Modules Status (V1)
4.5~5.5V	Output V1 ON
0~0.5V	Output V1 OFF

Between DC_OK2 (PIN6) and GND2 (PIN2)	Output modules Status (V2)
4.5~5.5V	Output V2 ON
0~0.5V	Output V2 OFF



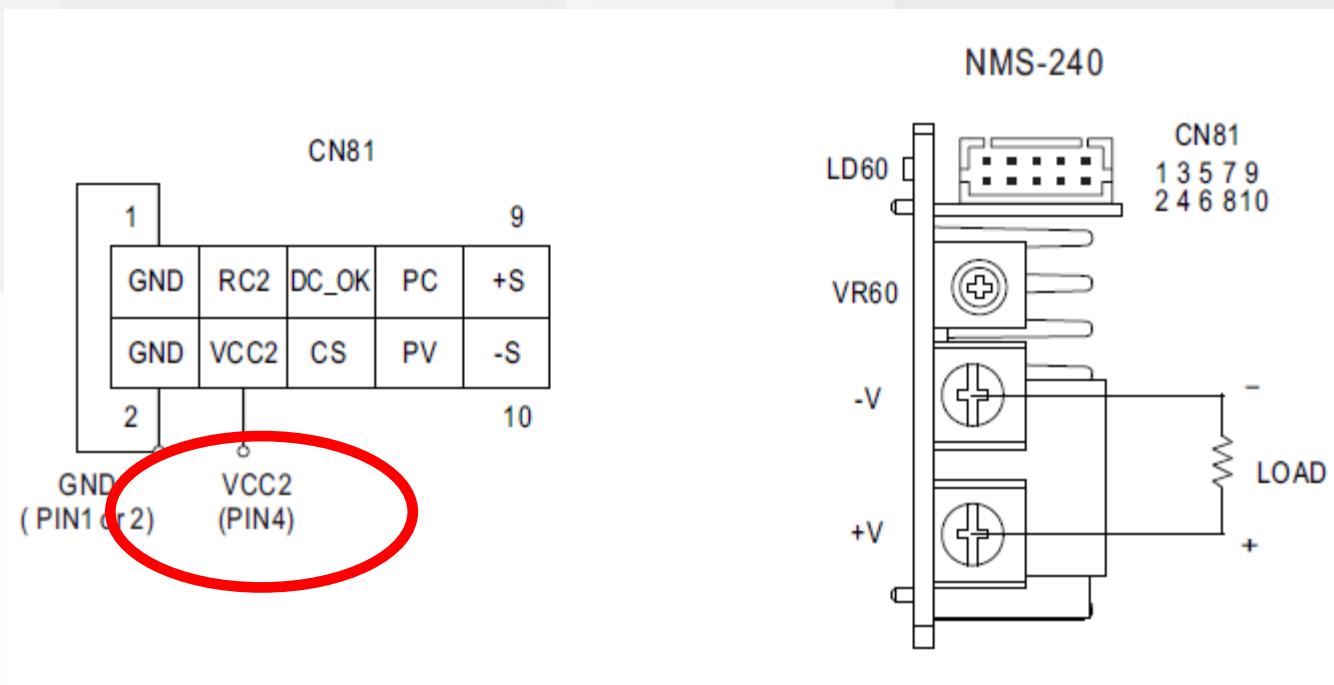
輔助電源

◆ NMP1K2 : 5V/2A ; NMP650 : 5V/1.5A



輔助電源

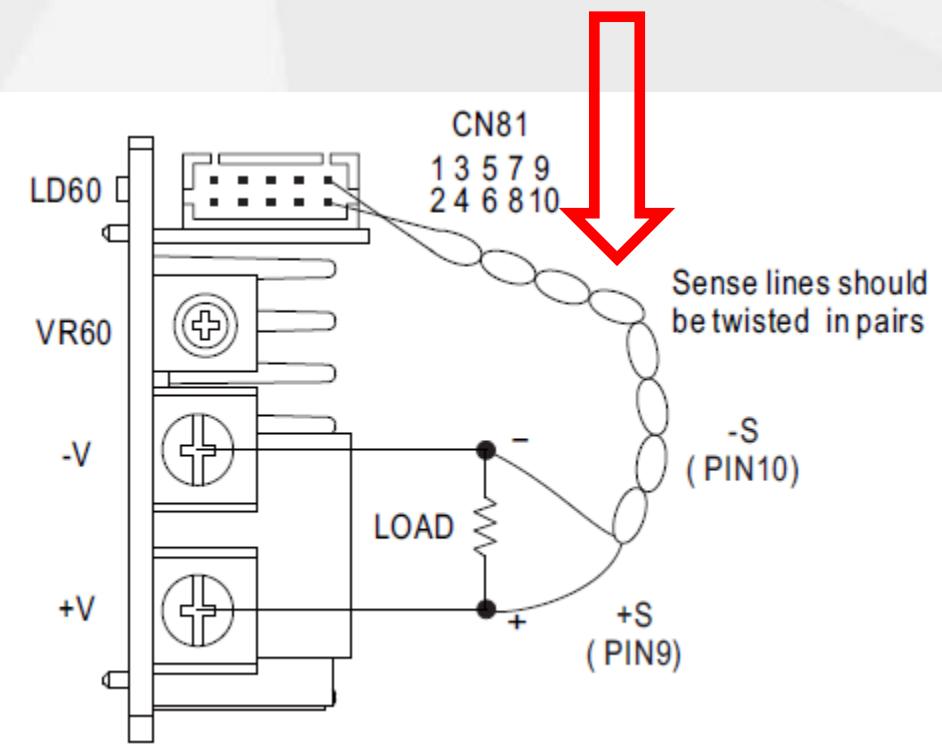
◆ NMS才有：5V/10mA



Remote Sense(NMS-240才有)

◆配線請絞線處理

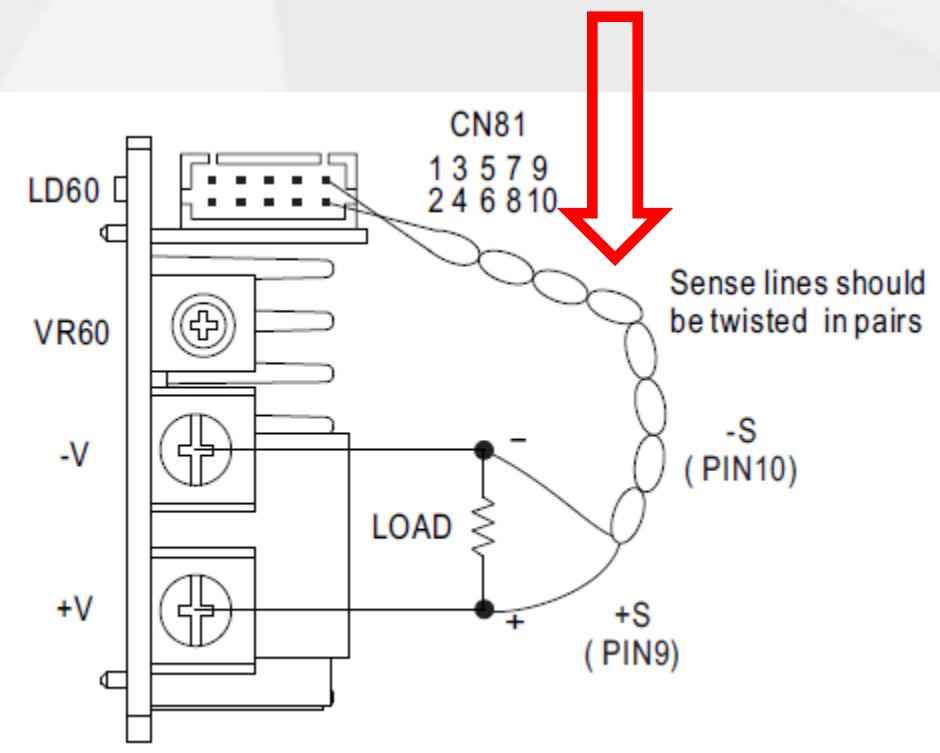
CN81				
1	RC2	DC_OK	PC	+S
2	GND	VCC2	CS	PV
				10



Remote Sense(NMS-240才有)

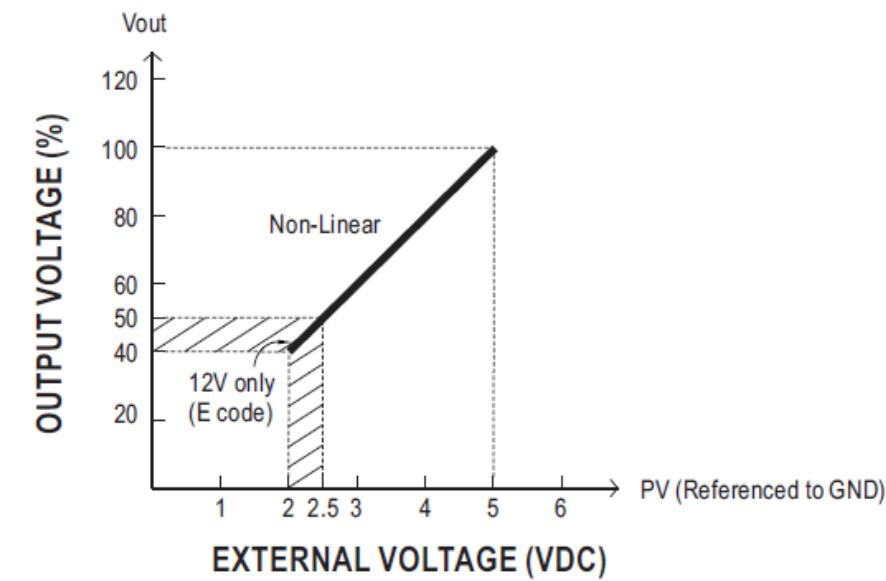
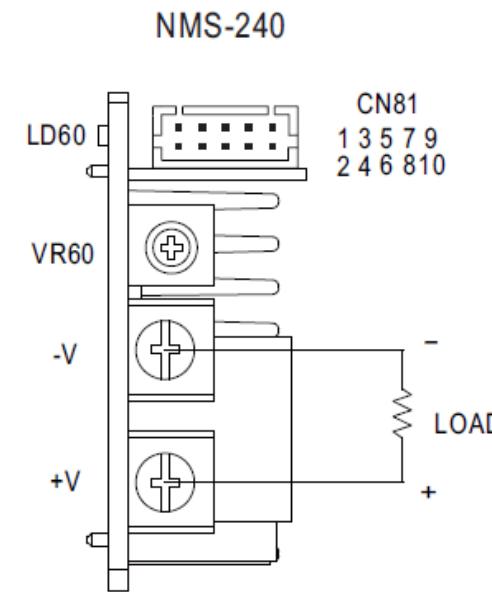
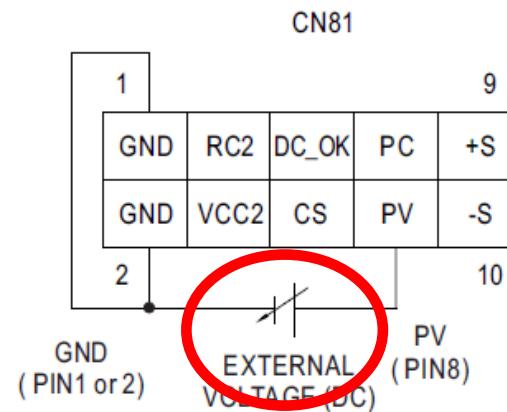
◆ 補償的電壓降上限0.5V

CN81				
1	RC2	DC_OK	PC	+S
2	GND	VCC2	CS	PV
				10



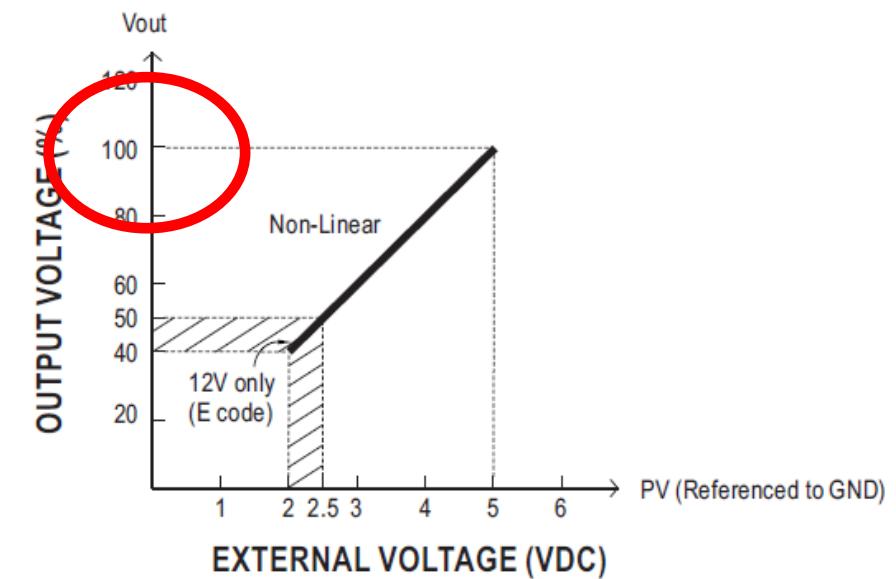
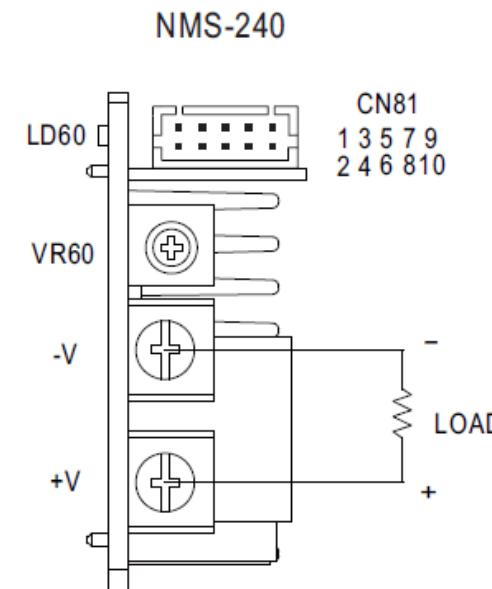
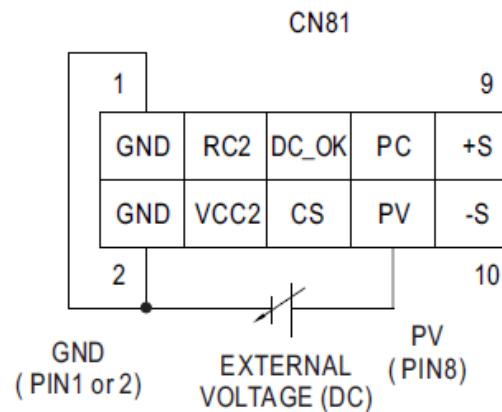
PV功能(NMS-240才有)

◆ 外加DC電壓調整輸出電壓



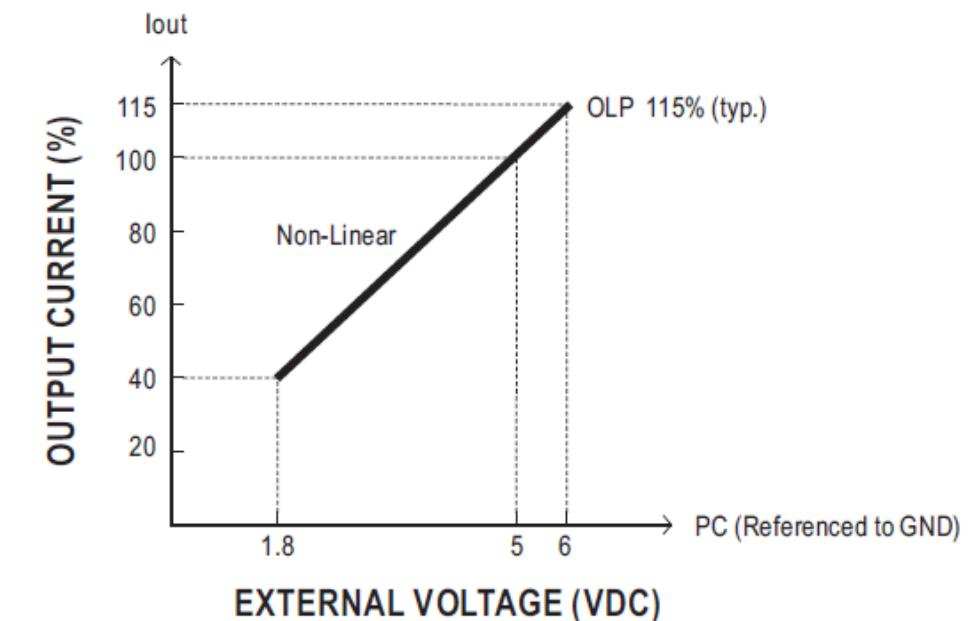
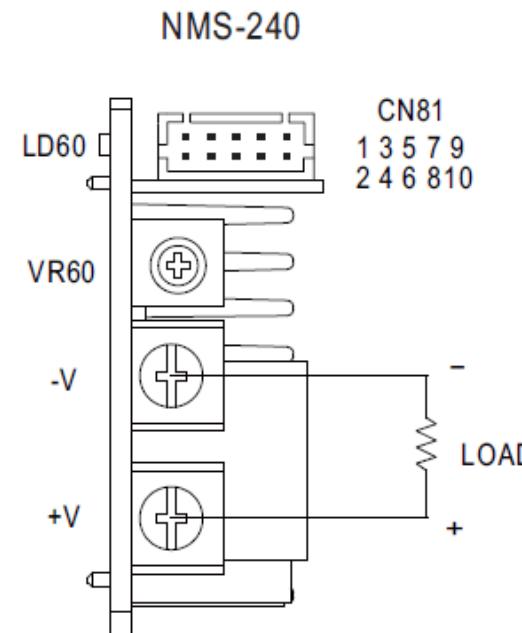
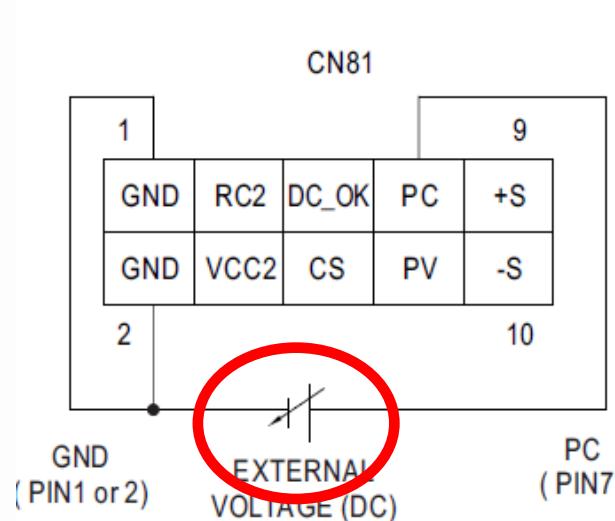
PV功能(NMS-240才有)

◆ 線路問題，只能往下調，上限要先用VR60調整
可調範圍同Vo ADJ範圍，以12V為例，範圍為6~15V



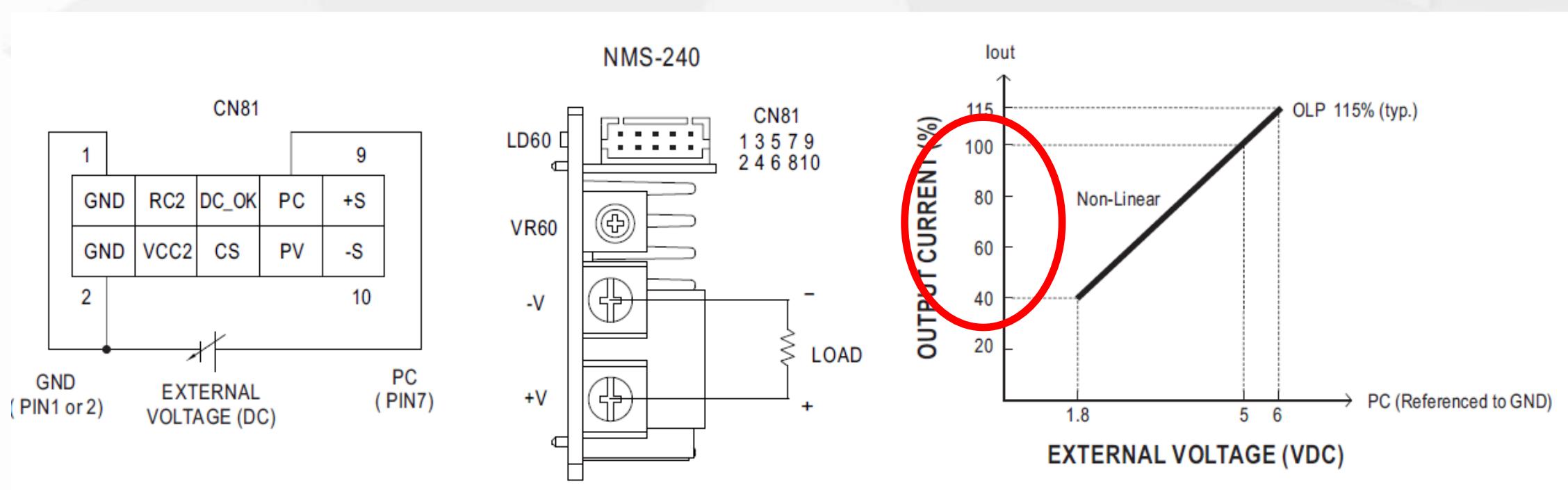
PC功能(NMS-240才有)

◆ 外加DC電壓調整輸出電流



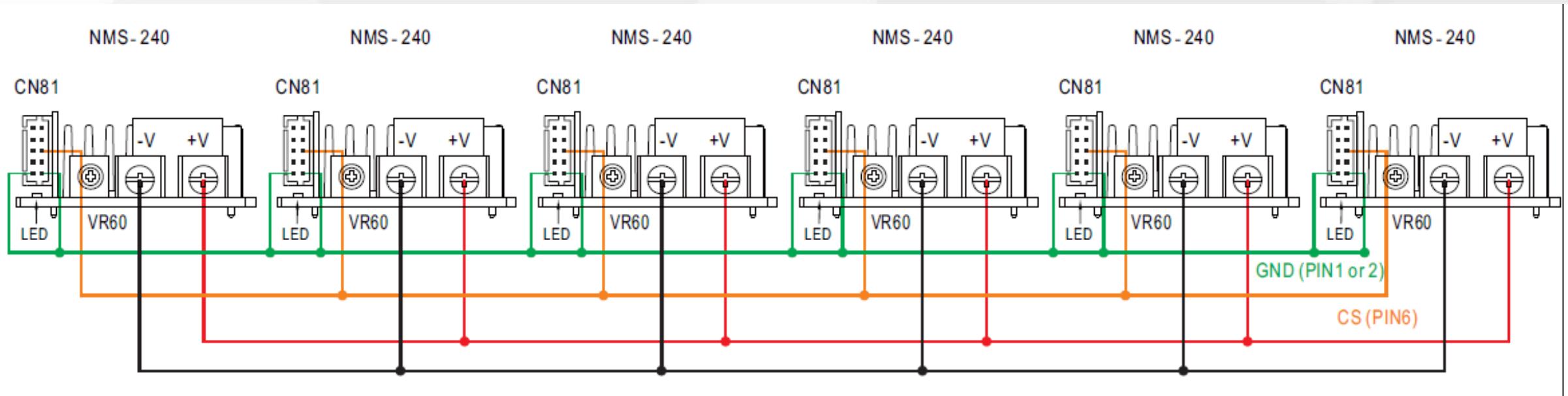
PC功能(NMS-240才有)

◆ 可調範圍40~100%



並聯功能(NMS-240才有)

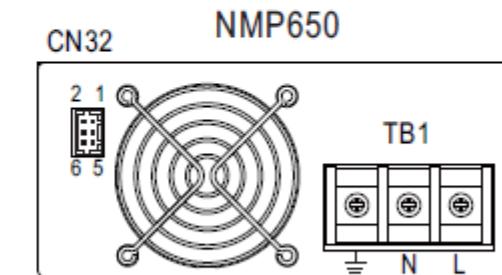
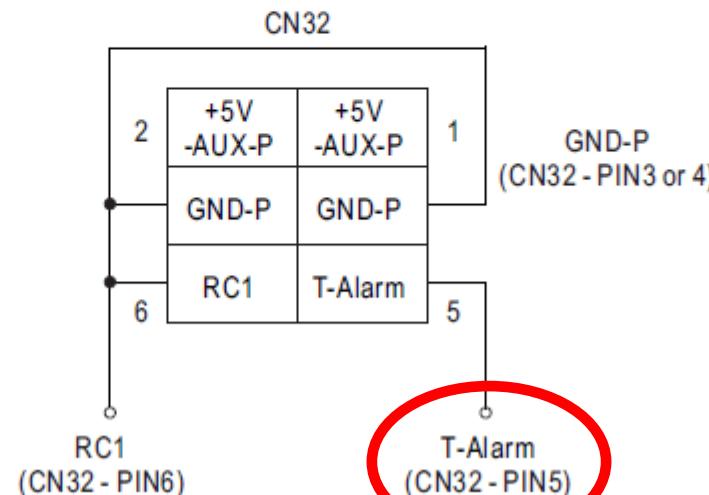
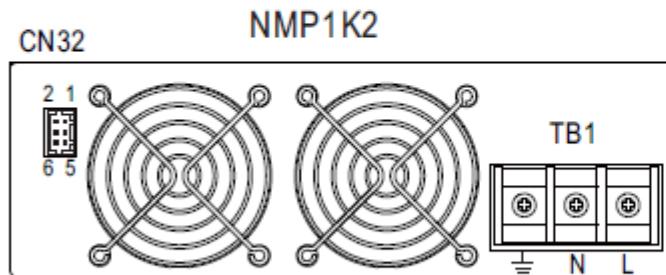
◆CS腳位並接，GND並接，輸出端並接



T-Alarm訊號

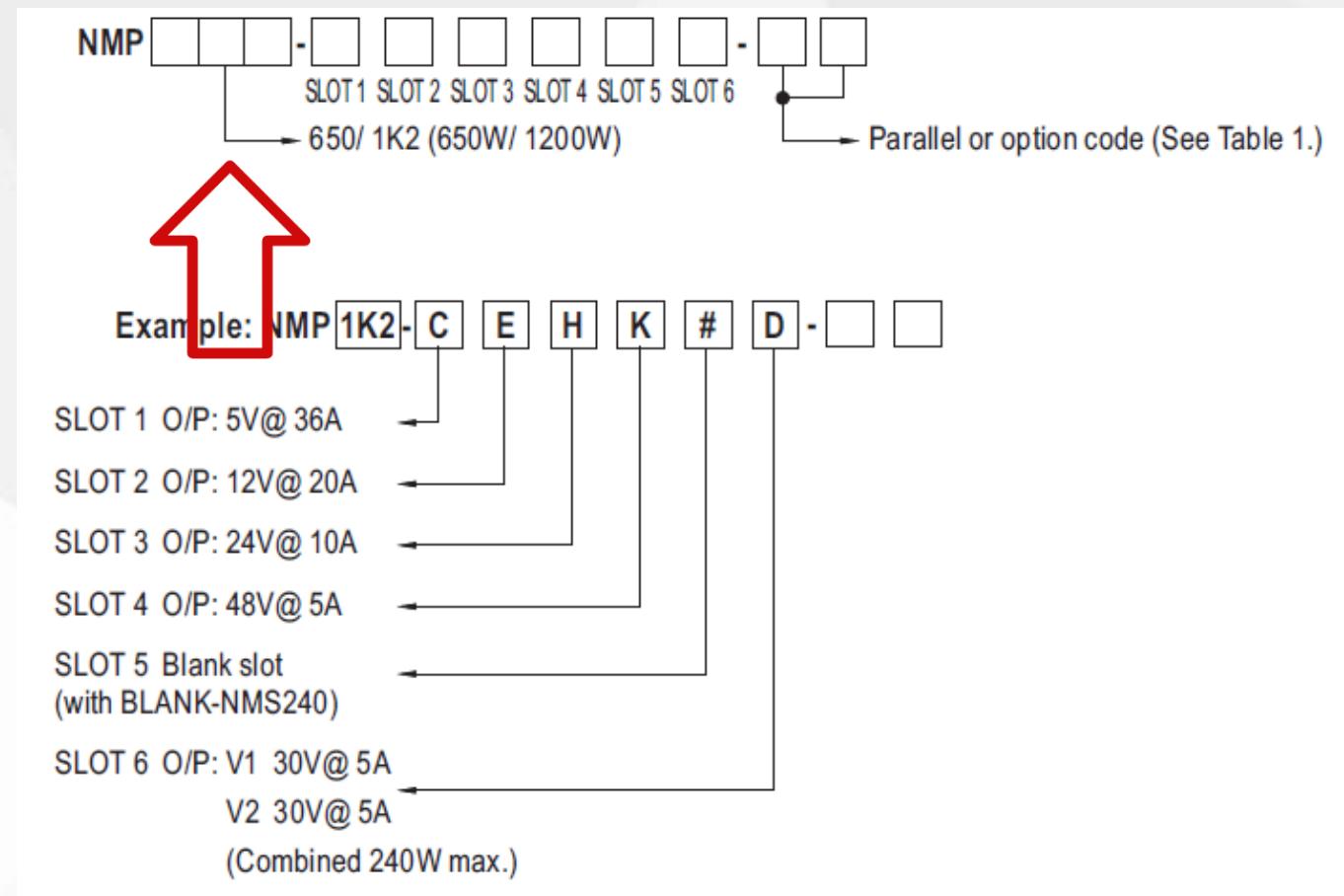
◆ TTL訊號，最大電流10mA

Between T-Alarm (CN32 PIN 5) and GND-P (CN32 PIN 3 or 4)	Internal temperature (U702)	Output Status
0~0.5V	The internal temperature is normal.	ON
4.5~5.5V	Exceeds the limit of temperature alarm.	ON
4.5~5.5V	Exceeds the "safe limit" of temperature alarm.	OFF



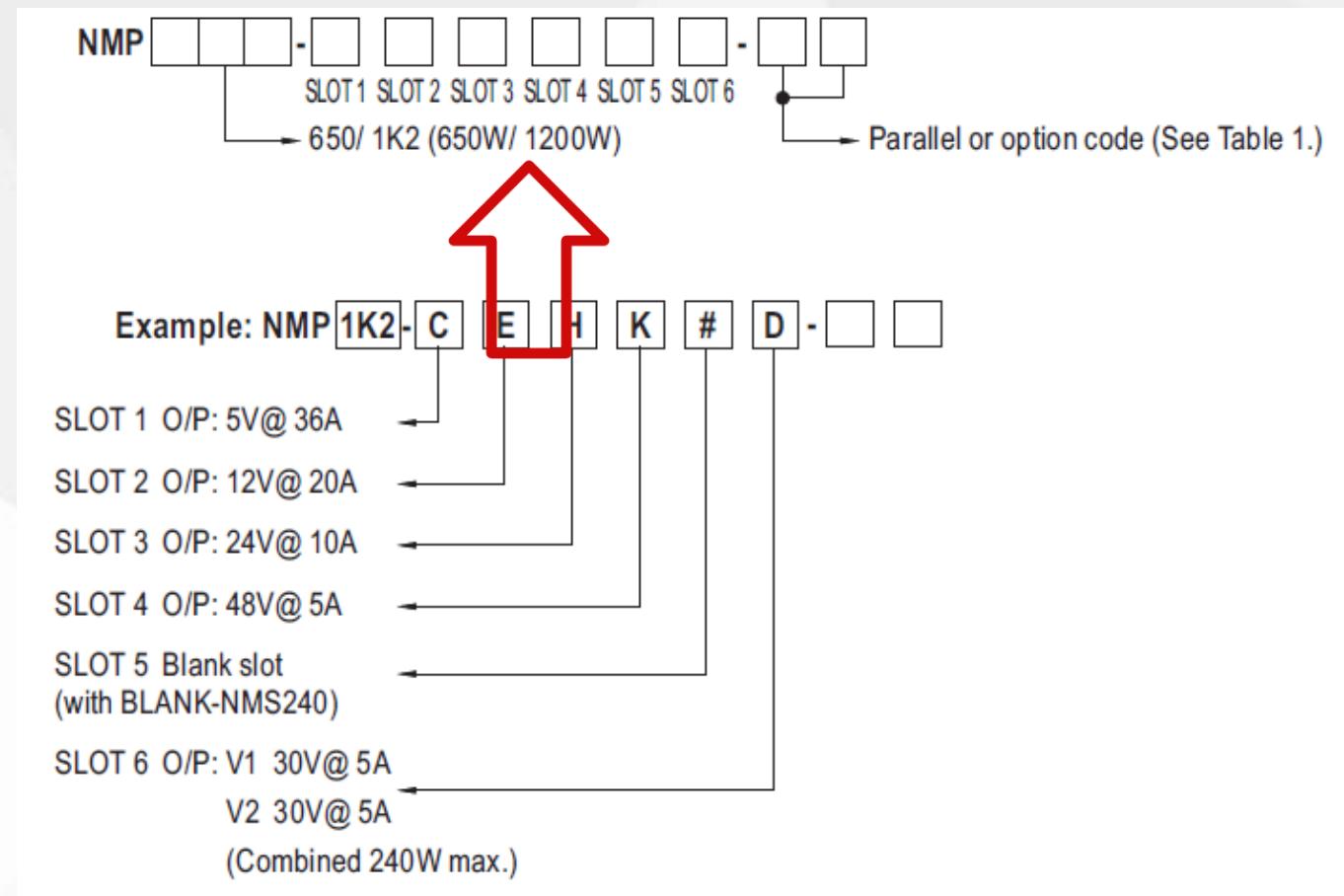
如何選型命名？

◆ 根據總輸出瓦數選擇型號650或1K2



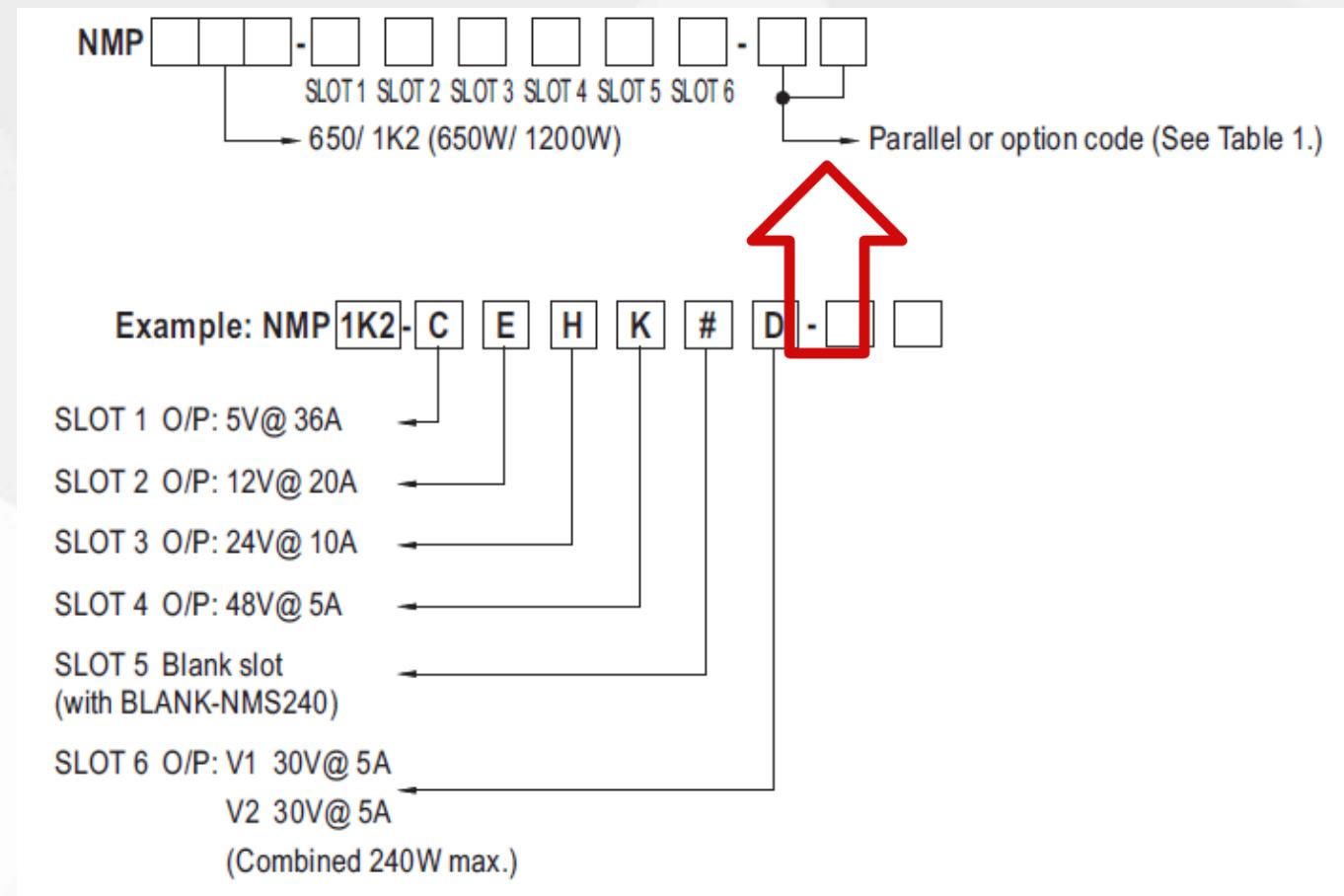
如何選型命名？

◆ 根據客戶需求選擇合適模組，空SLOT為#



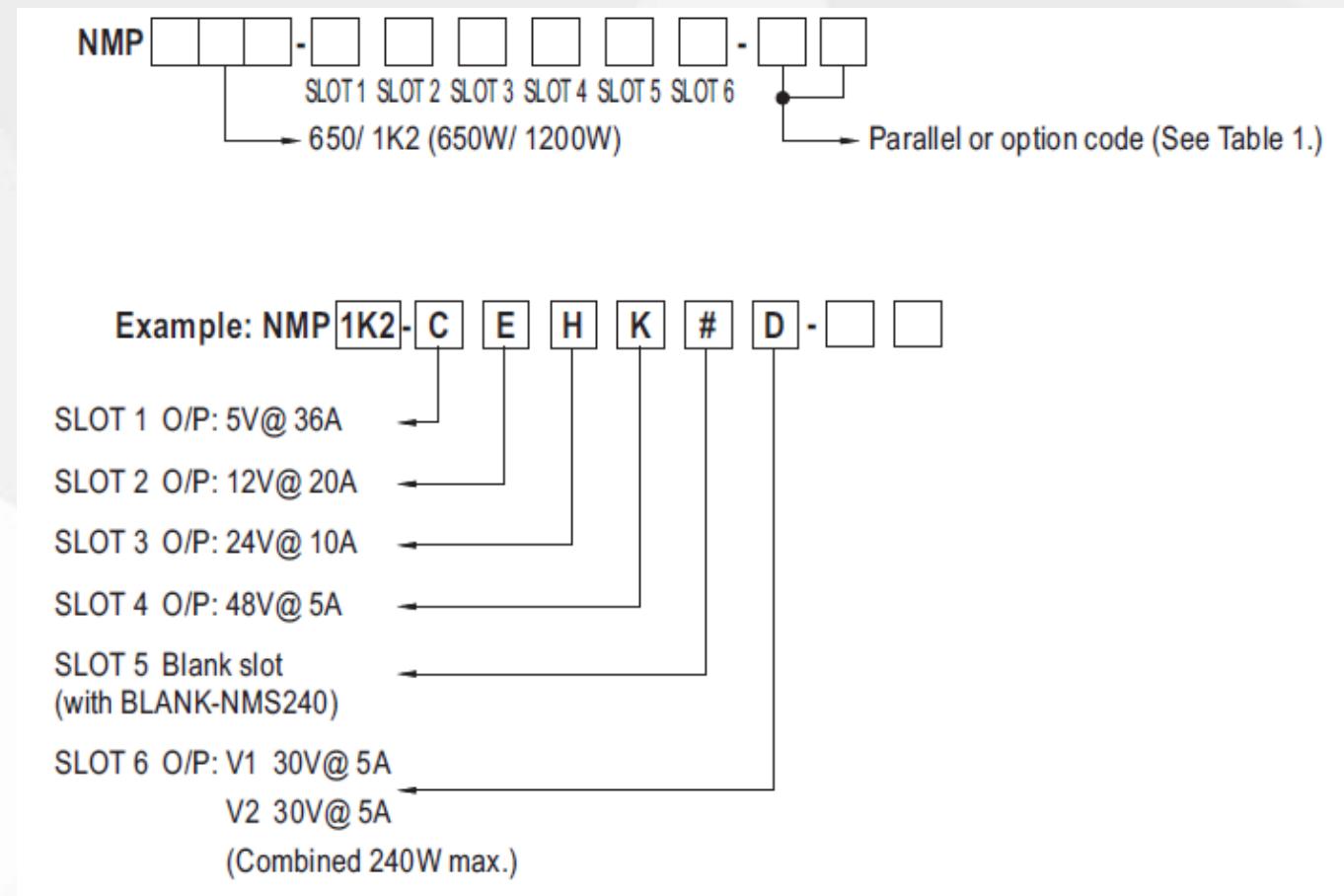
如何選型命名？

◆ 並聯碼，00~31，參考規格書表1



如何選型命名？

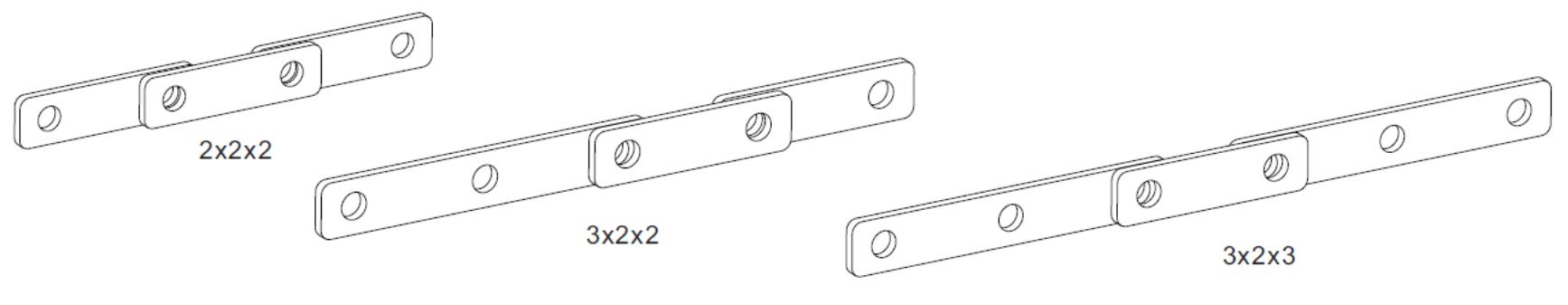
◆ 範例：NMP1K2-CEHK#D



配件說明

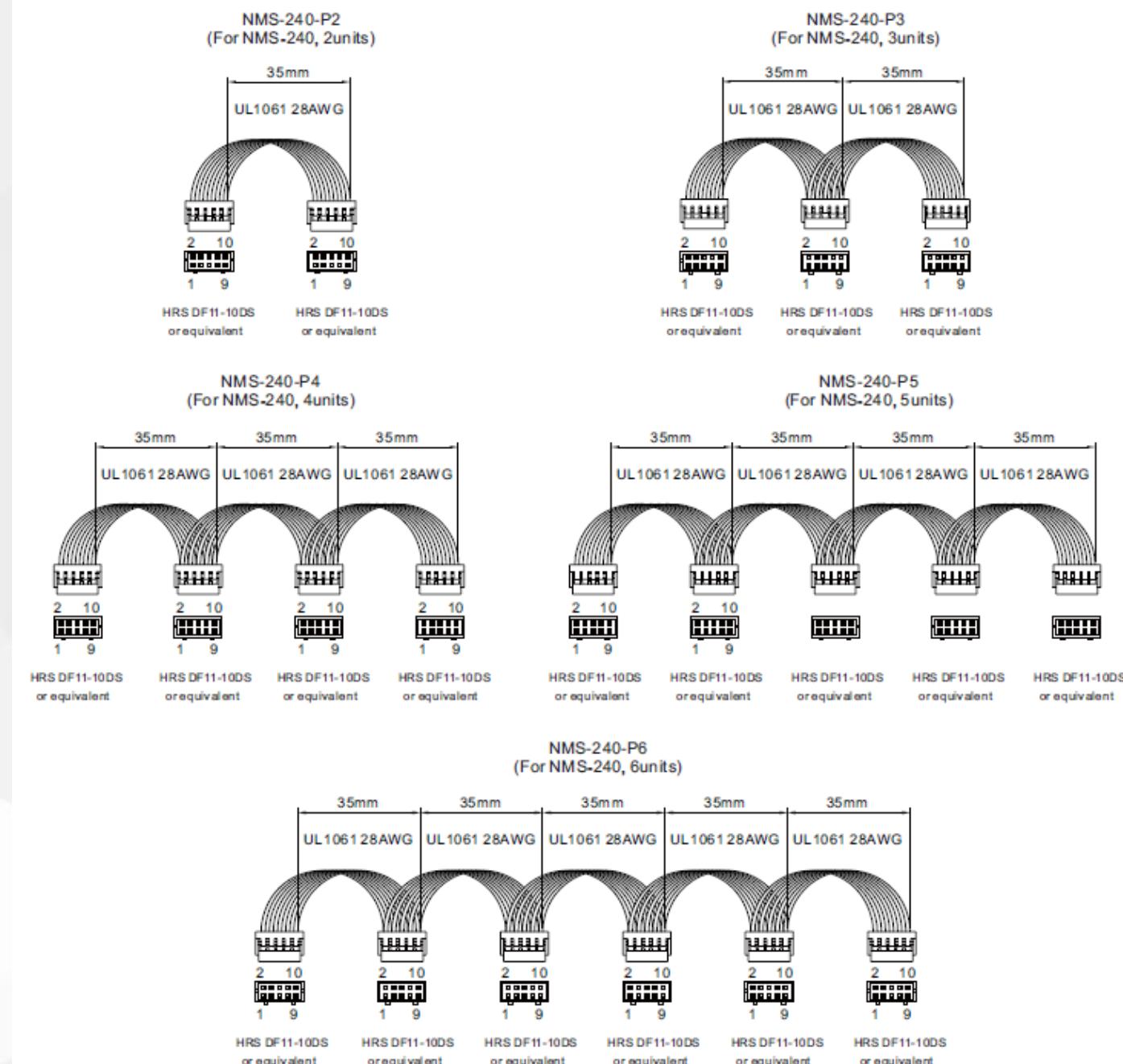
◆並聯配件

Parallel Connection Accessory	
FAP-009 (For NMS-240, 2 units)	
FAP-010 (For NMS-240, 3 units)	



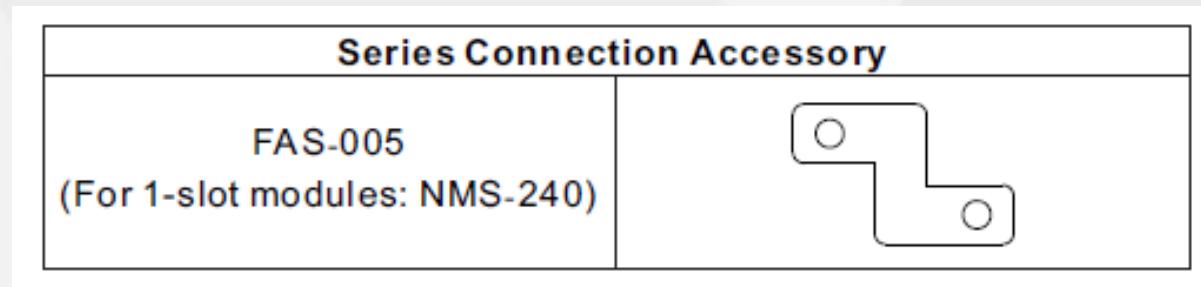
配件說明

◆並聯線材

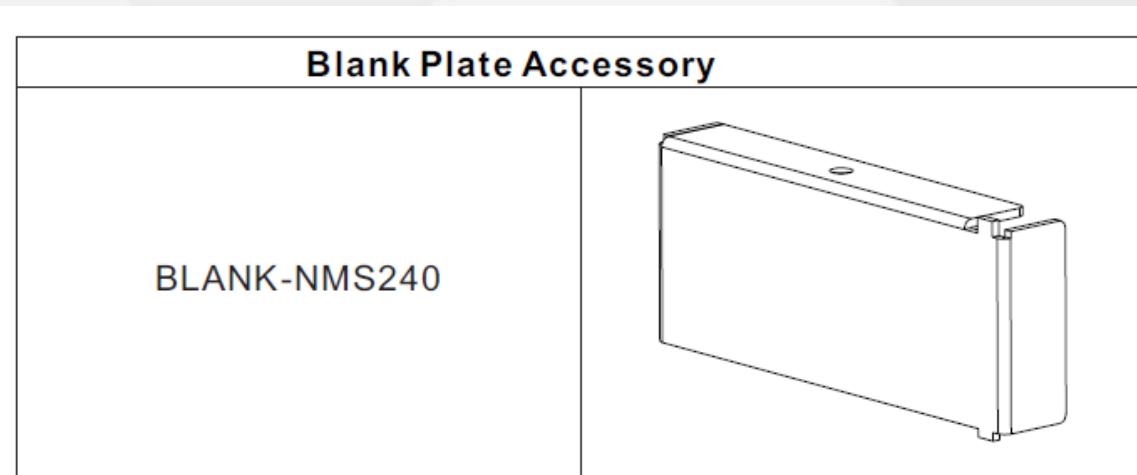


配件說明

◆串聯片



◆保護蓋

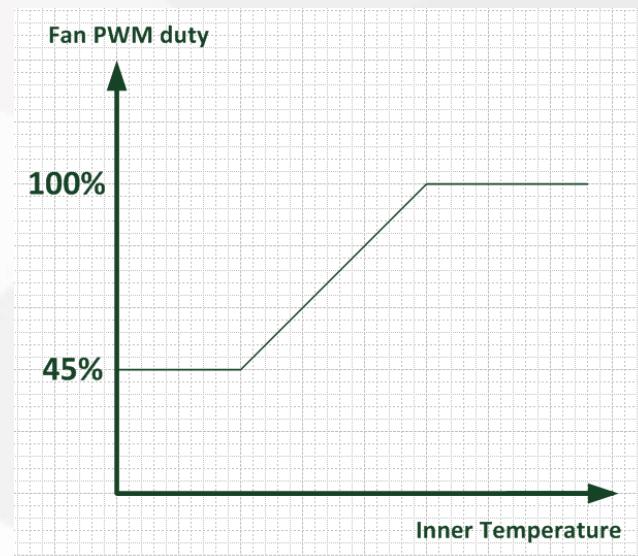


NMP噪音解決方案

- ◆ 不是使用於滿載條件
 - ◆ 最高環溫低於50度
- 都可藉由調低風扇duty, 減少噪音

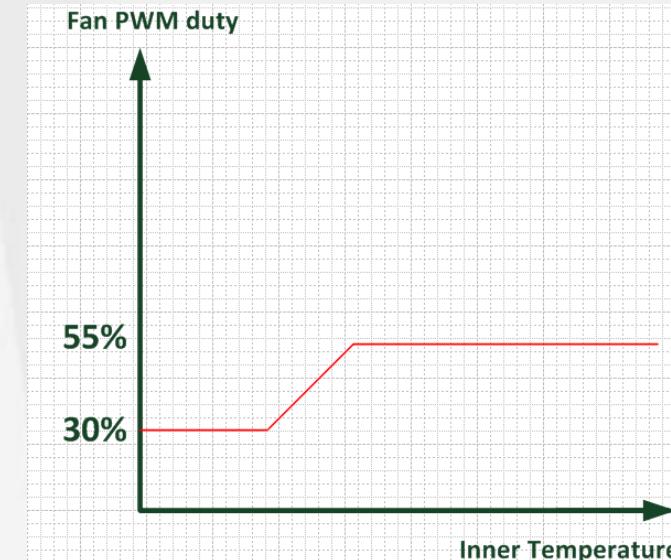


NMP噪音解決方案



NMP-1K2 standard

- ◆ Max output: 1200W
- ◆ Working temp.: 50 °C without derating
- ◆ Fan noise: > 80dB



NMP-1K2 modification

- ◆ Max output: 600W
- ◆ Working temp.: 40 °C without derating
- ◆ Fan noise: < 70dB

NOTE: 因NMS輸出負載不同的關係, 不同應用條件需要溫升測試評估



UMP-400

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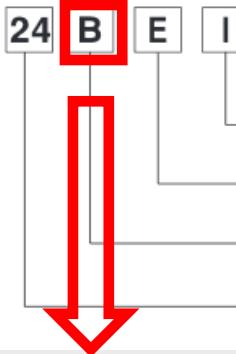
- ◆ 命名方式
- ◆ 注意事項

命名方式

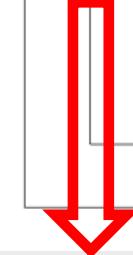
UMP-400 - 24 X X X

通道4
通道3
通道2
通道1(主输出): 24V or 48V

例如: UMP-400 - 24 B E I



通道4: NID100-05
通道3: NID65-05
通道2: NID35-12
通道1:(主输出): 24V



空槽以 “_” 標示

X:

	DC-DC输出型号	输出电压	输出电流
A	NID35-05	5V	3.5A
B	NID35-12	12V	2.9A
C	NID35-15	15V	2.4A
D	NID35-24	24V	1.5A
E	NID65-05	5V	6.5A
F	NID65-12	12V	4.9A
G	NID65-15	15V	4.3A
H	NID65-24	24V	2.7A
I	NID100-05	5V	8.0A
J	NID100-12	12V	6.0A
K	NID100-15	15V	5.2A
L	NID100-24	24V	3.4A

	DC-DC输出型号	输出电压	输出电流
M	NID35-05	-5V	-3.5A
N	NID35-12	-12V	-2.9A
O	NID35-15	-15V	-2.4A
P	NID65-05	-5V	-6.5A
Q	NID65-12	-12V	-4.9A
R	NID65-15	-15V	-4.3A
S	NID100-05	-5V	-8.0A
T	NID100-12	-12V	-6.0A
U	NID100-15	-15V	-5.2A

备注:

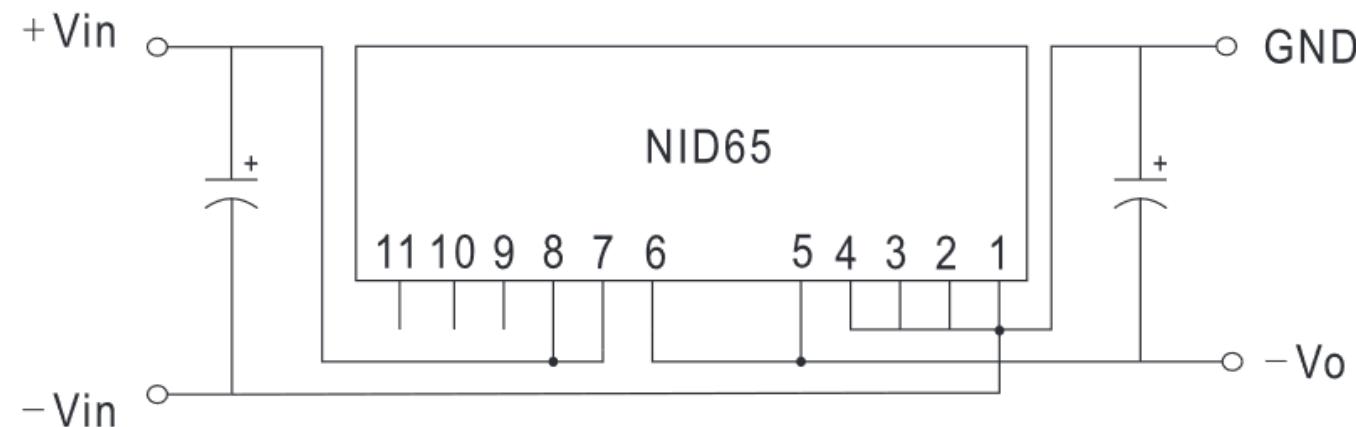
1. NID35/65/100-24模块仅适用于UMP-400-48.
2. 仅UMP-400-24可以配置负输出电压模块.
3. 仅输出通道4 (V4) 可以配置为负电压.

注意事項

- ◆ NID系列為降壓線路，輸入電壓需大於輸出電壓，故NID35/65/100-24僅適用於UMP-400-48
- ◆ 僅輸出通道4(V4)可以配置為負電壓
- ◆ 僅UMP-400-24可以配置負輸出電壓模塊

■ 负电压输出连接图

注意：输入电压必须小于30VDC

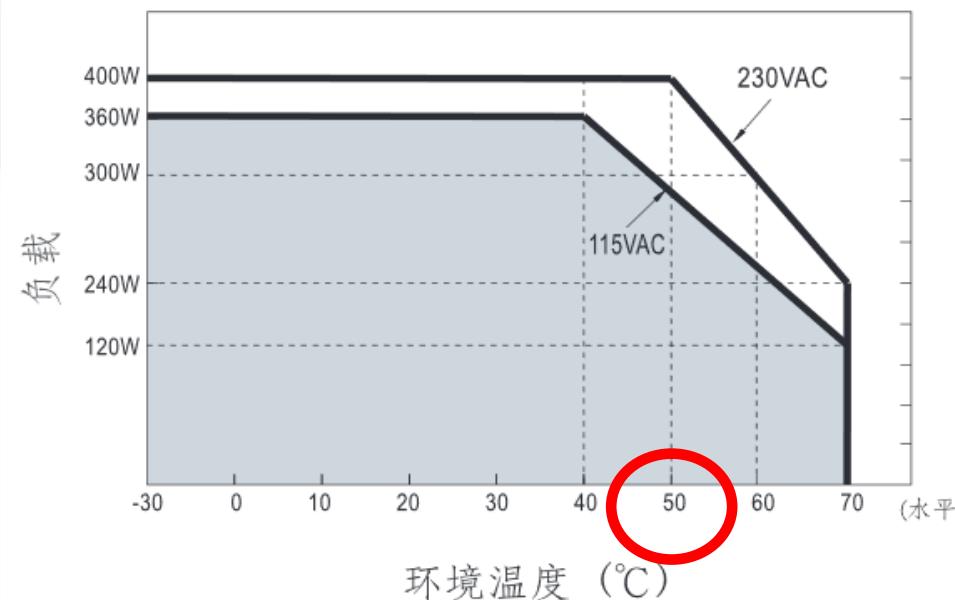


注意事項

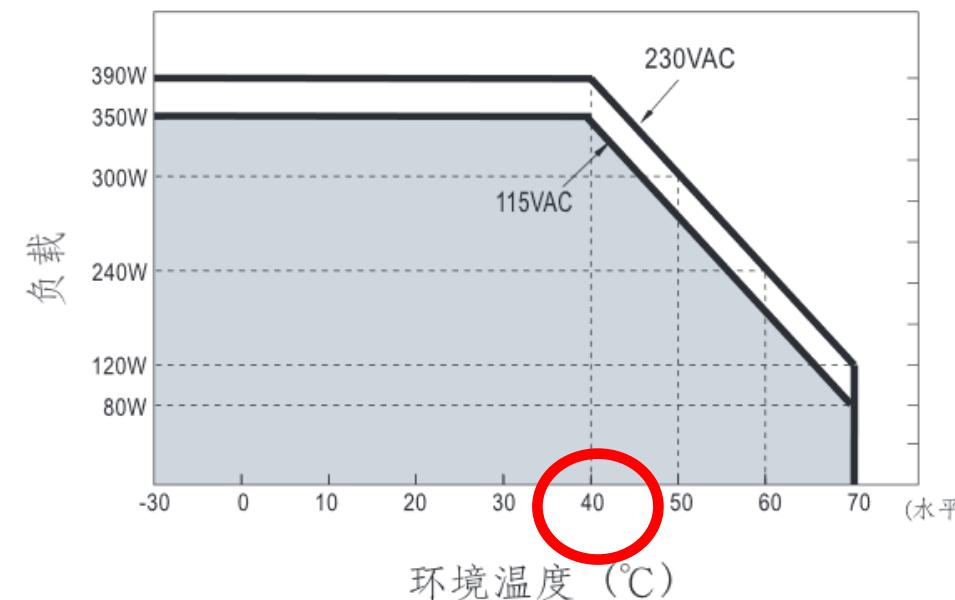
◆ 單組與多組的環溫條件不同

◎ 不使用冷却板操作

UMP-400-24/48 (单组输出):

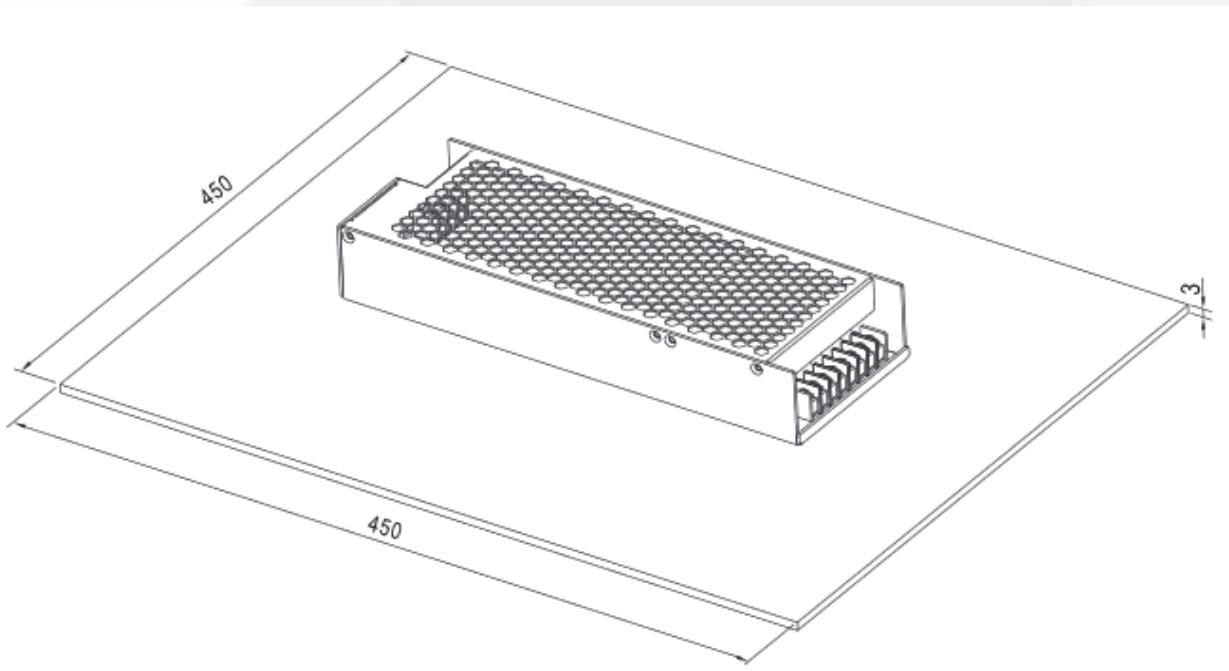


UMP-400-24/48XXX (多组输出):

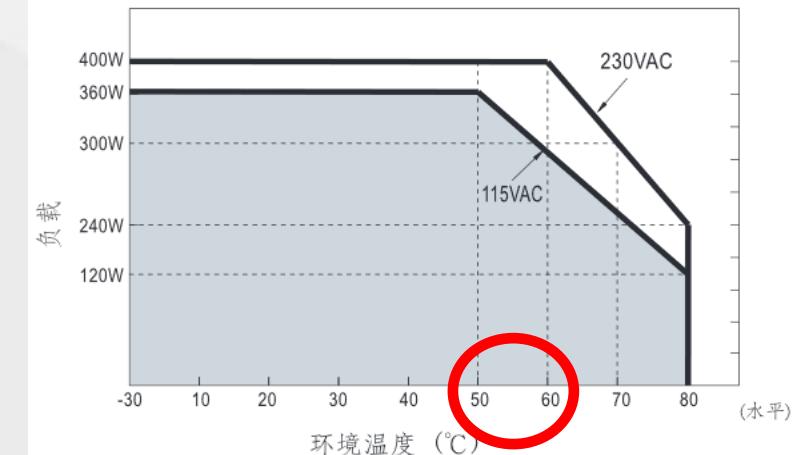


注意事項

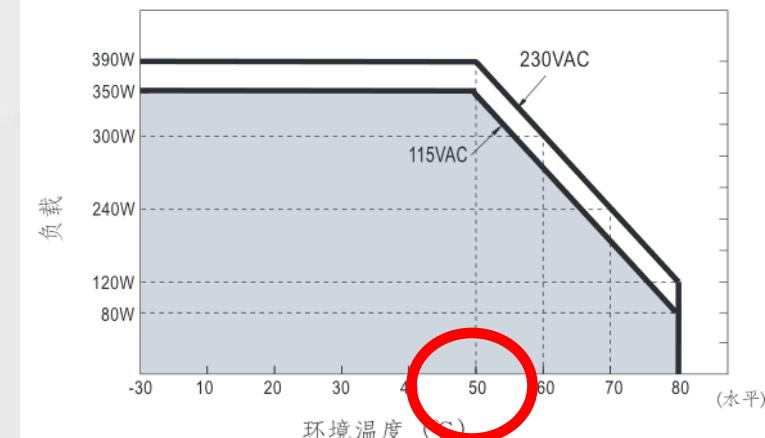
◆ 使用冷卻鋁板可使用在更高環溫



UMP-400-24/48 (单组输出):

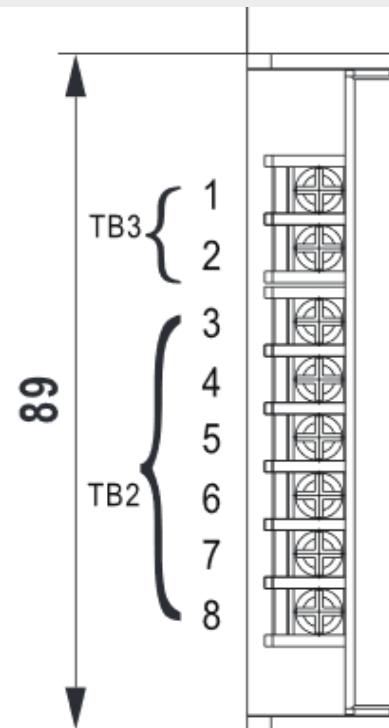
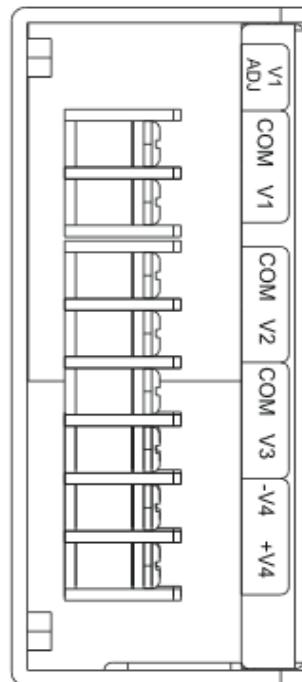


UMP-400-24/48XXX (多组输出):



注意事項

◆ 只有在選擇多組輸出時才安裝TB2



TB2 (多组输出 UMP-400-24/48XXX)

引脚编号	引脚功能	
3		COM
4		+V2
5		COM
6		+V3

引脚编号	正电压	负电压
7	COM	-V4
8	+V4	COM



BIC-2200

MEAN WELL

HAVE GOOD INTENTIONS

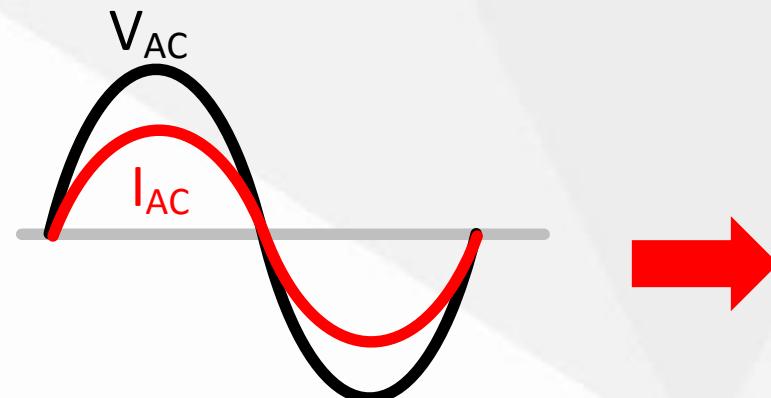
YOUR RELIABLE POWER PARTNER

大綱

- ◆ 操作模式介紹
- ◆ 注意事項
- ◆ 影片

何謂雙向電源？

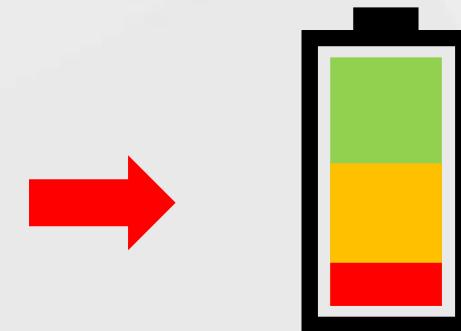
◆ 正向操作，如同一般電源或充電器



AC 電源



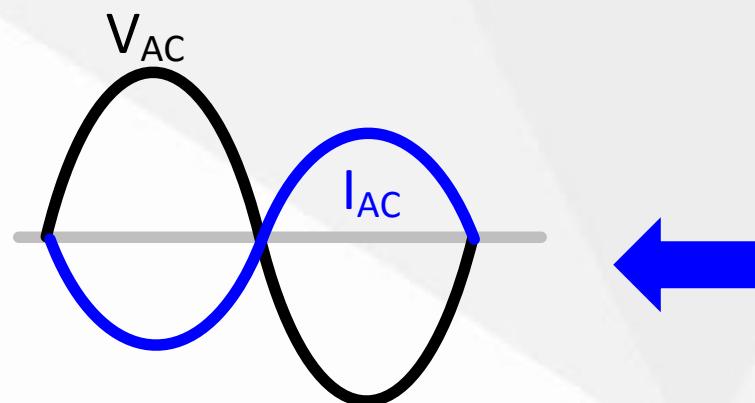
BIC-2200-12



Battery/Load

何謂雙向電源？

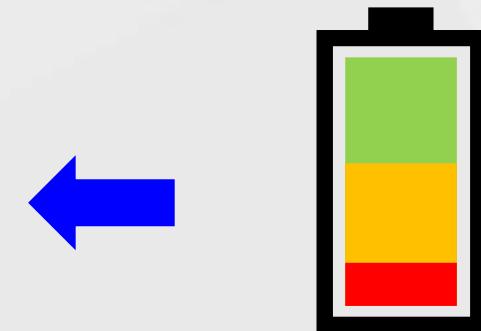
◆ 反向操作，如同逆變器



AC 電源



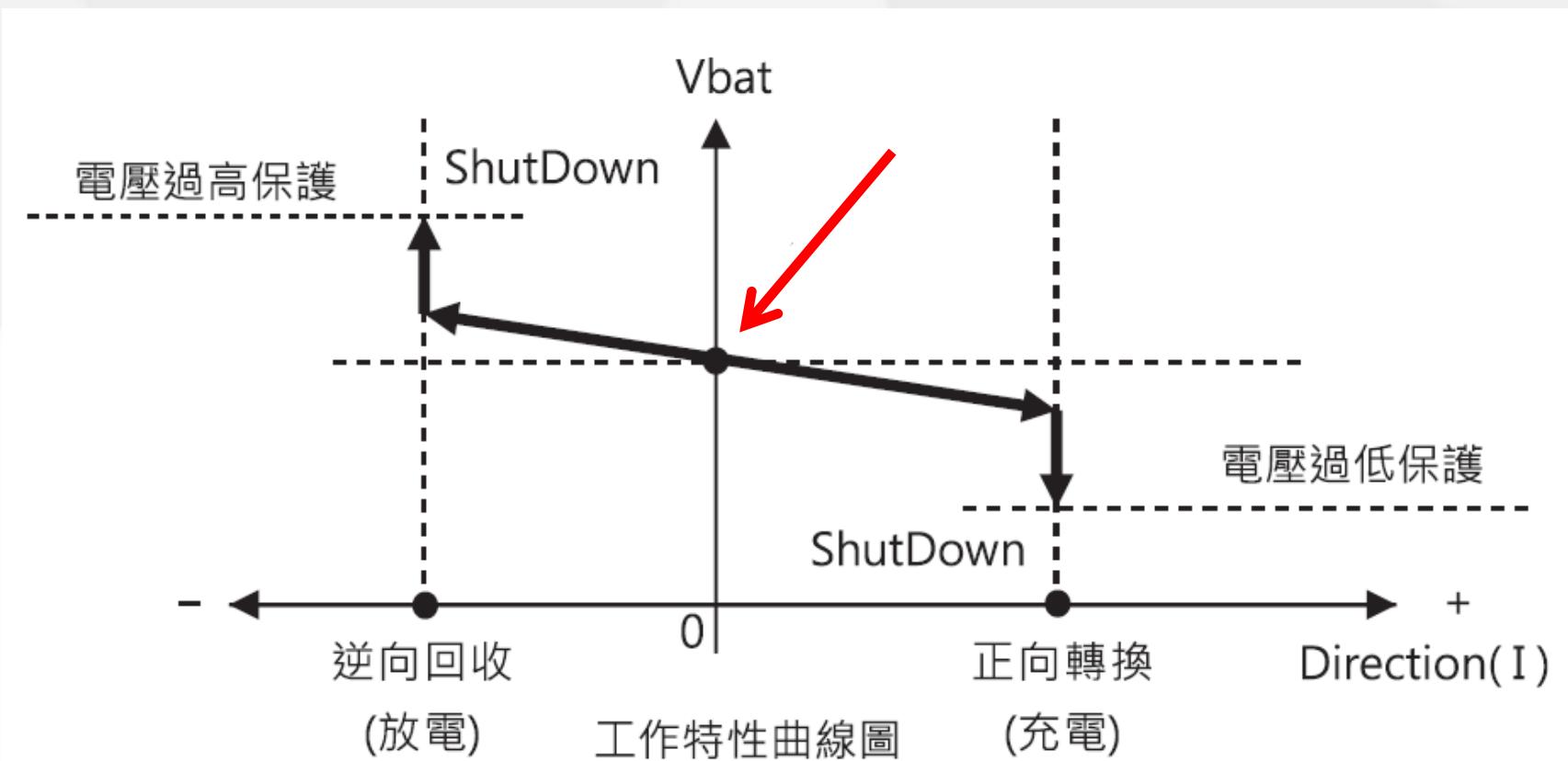
BIC-2200-12



Battery/Load

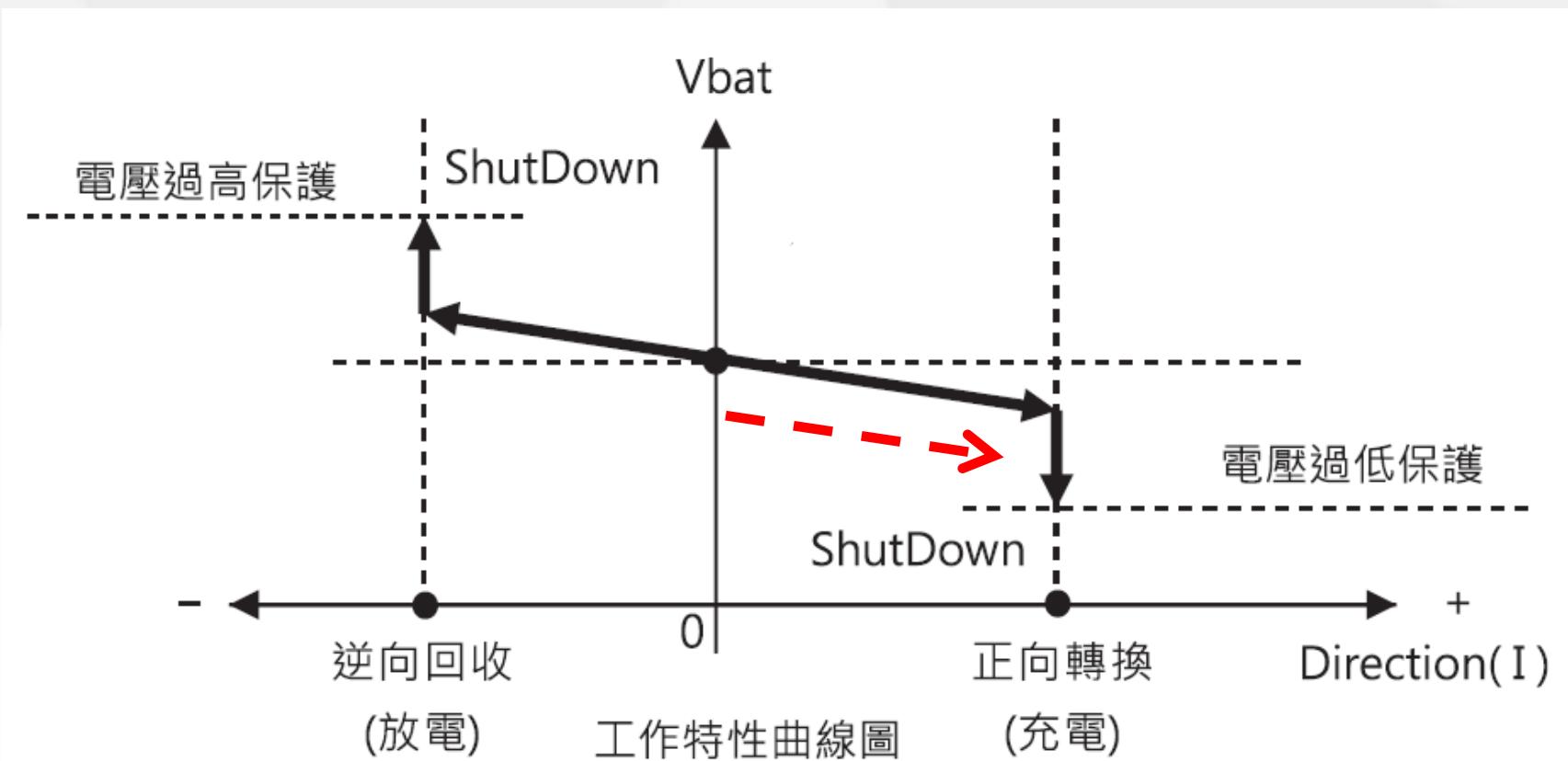
自動轉向CV模式(出廠預設模式)

◆ CV目標電壓(BIC-2200額定電壓)



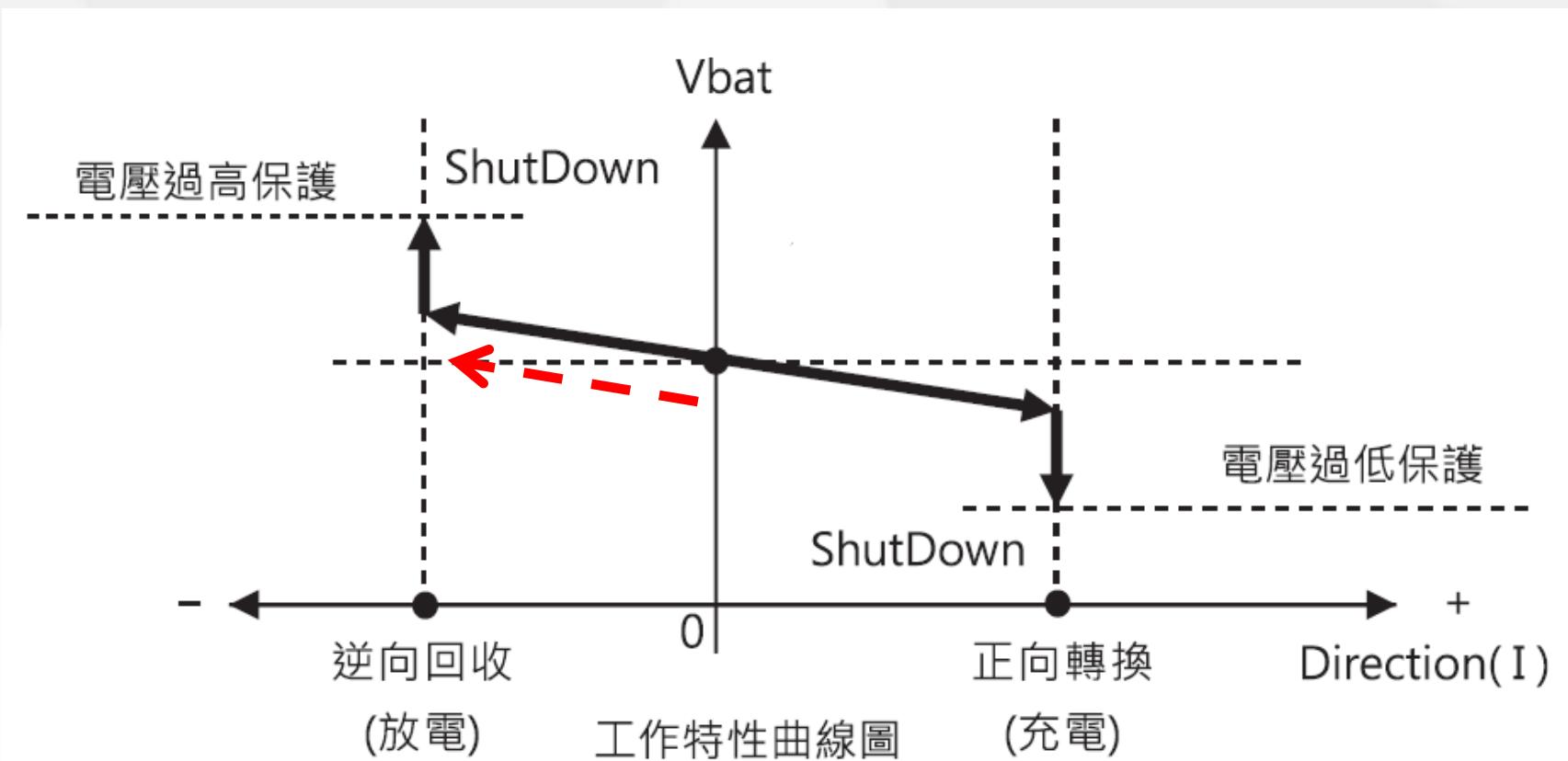
自動轉向CV模式(出廠預設模式)

◆ 設備電壓或電池電壓比較低，操作在正向(充電)



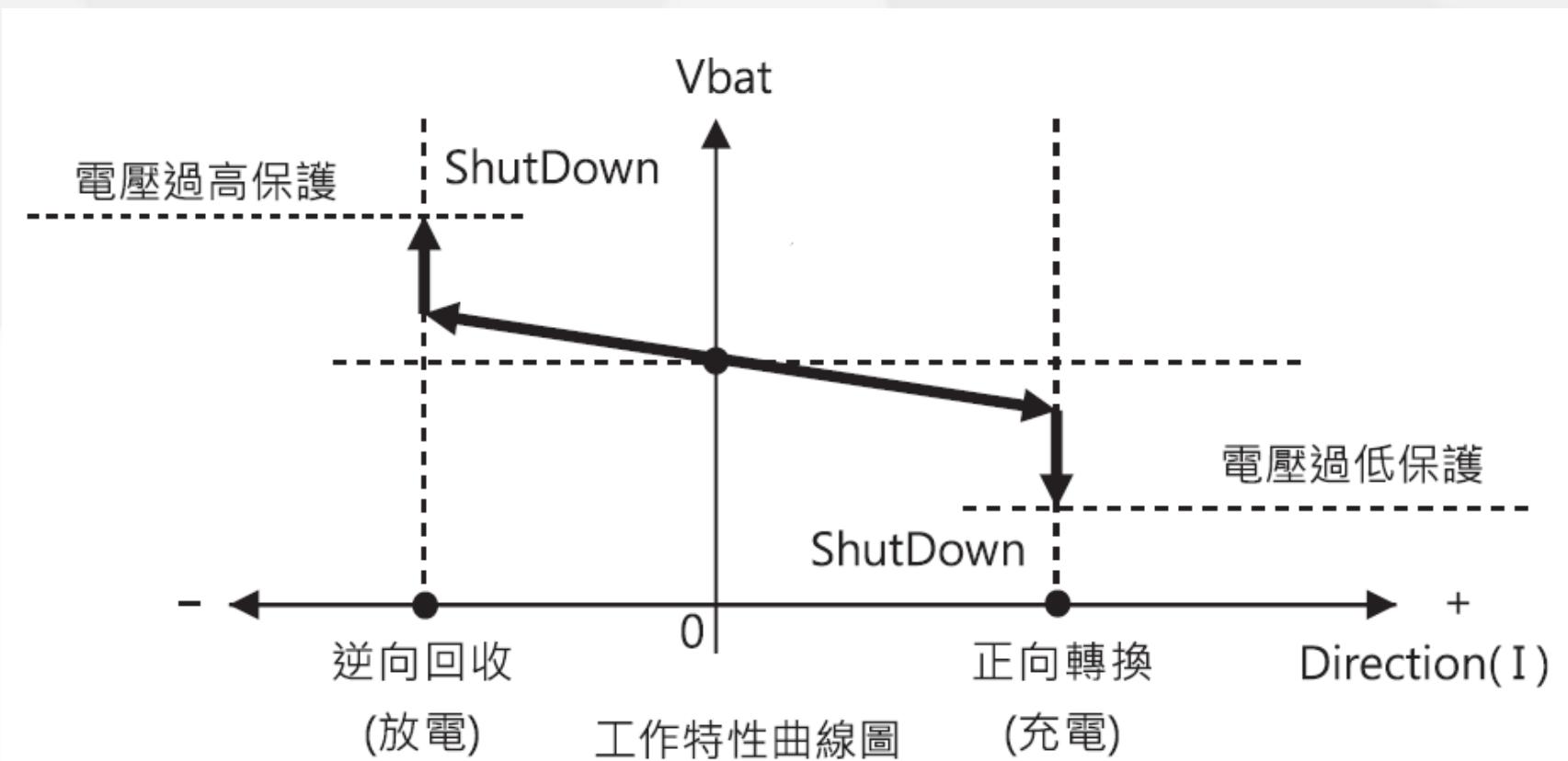
自動轉向CV模式(出廠預設模式)

◆ 設備電壓或電池電壓比較高，操作在反向(放電)



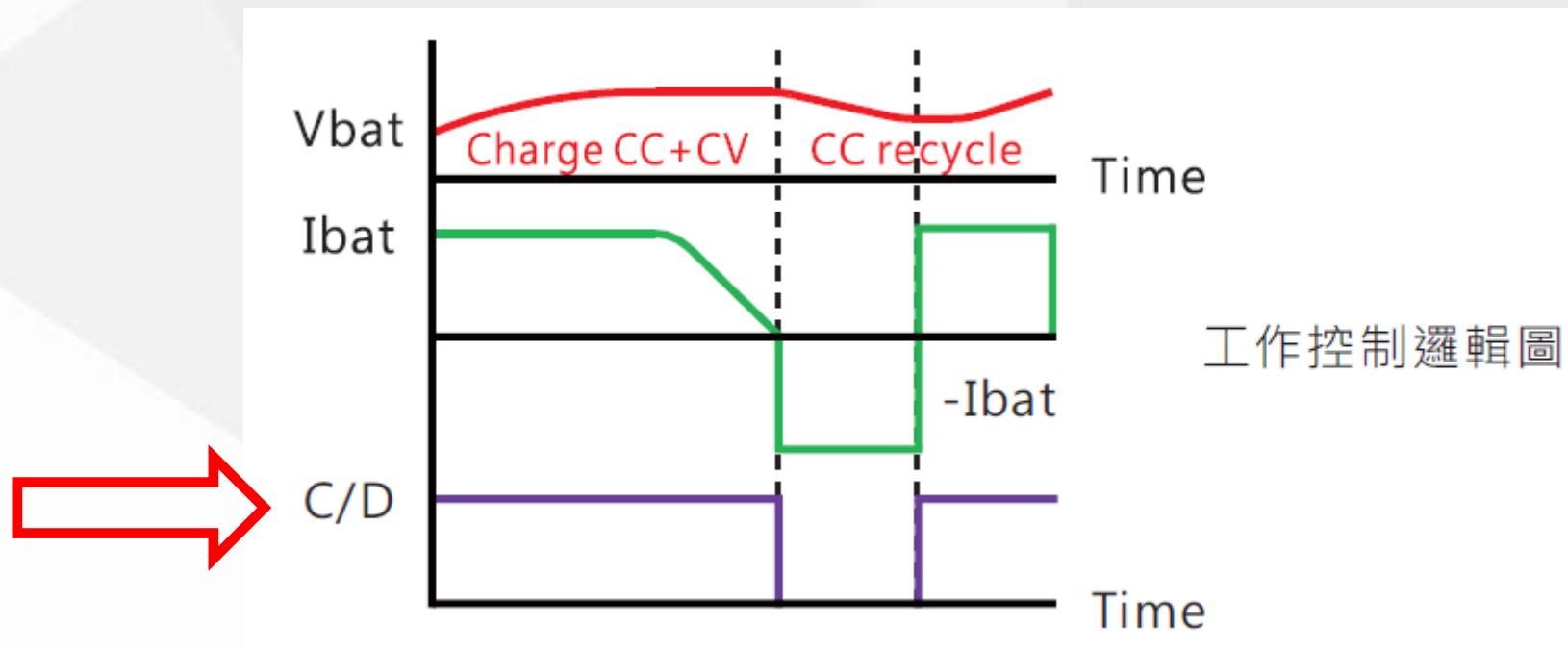
自動轉向CV模式(出廠預設模式)

◆ 內部程式自動評判，無法由主動式控制訊號(C/D)介入



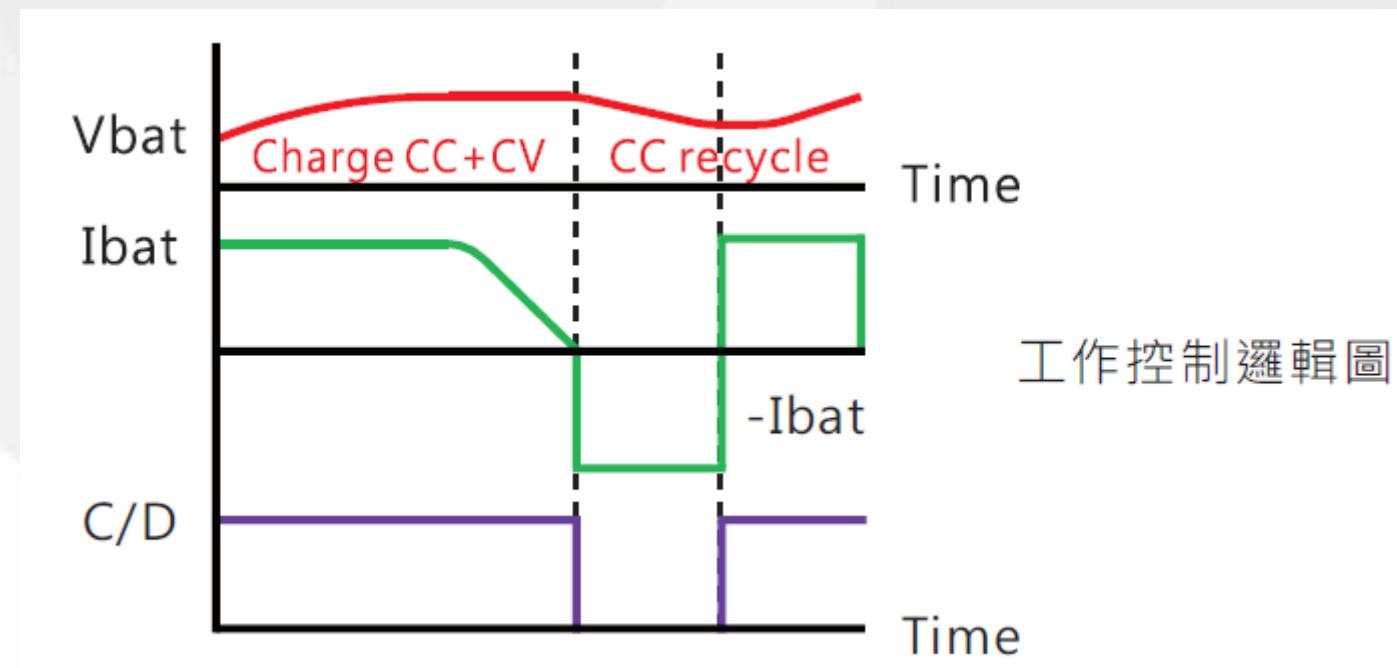
手動控制電池模式(選購的CANBUS才有)

◆ 正向或反向的轉換可藉由C/D控制訊號變更



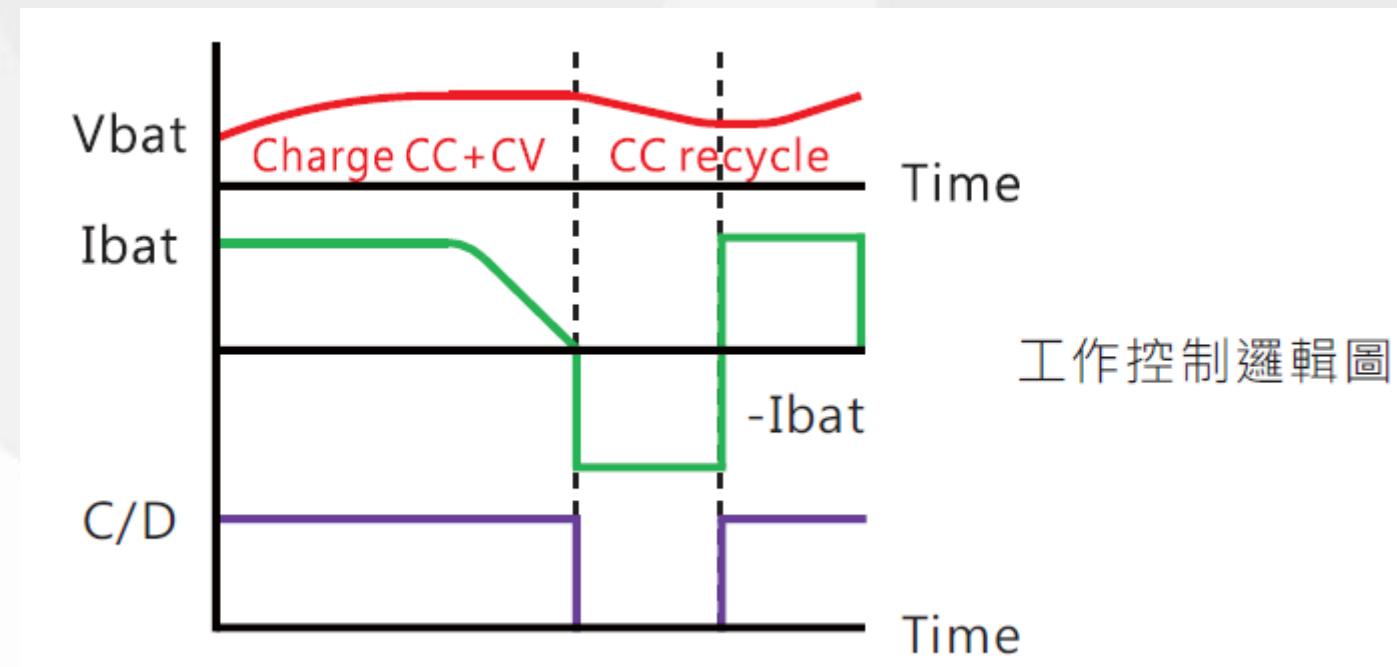
手動控制電池模式(選購的CANBUS才有)

- ◆ C/D訊號為1(HIGH準位，4.5~5.5V)，則為正向



手動控制電池模式(選購的CANBUS才有)

- ◆ C/D訊號為0(LOW準位，-0.1~0.5V)，則為反向

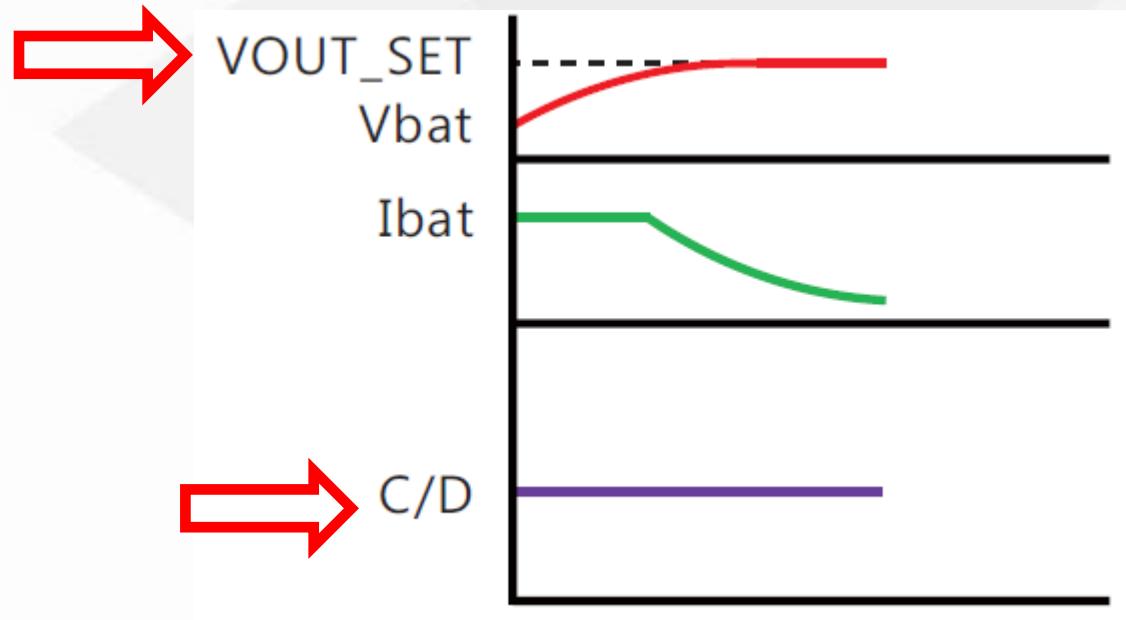


錯誤指令，5%放電電流限制

◆充電模式， $C/D=1$

錯誤指令，5%放電電流限制

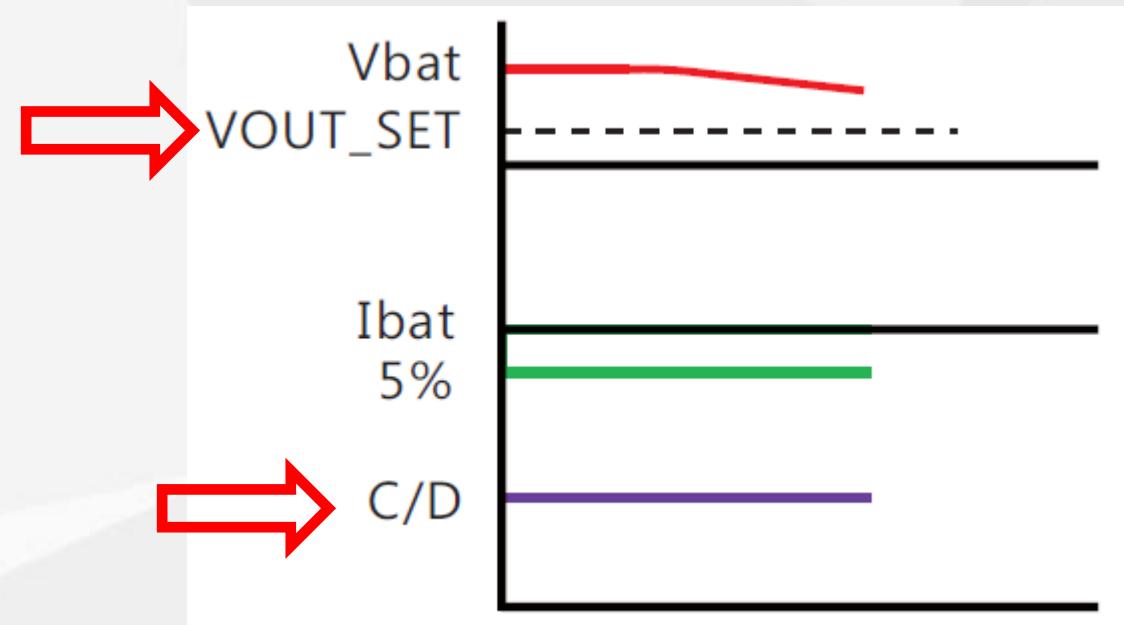
◆正常狀態



充電電壓設定>電池電壓，
且C/D=1

錯誤指令，5%放電電流限制

◆異常狀態



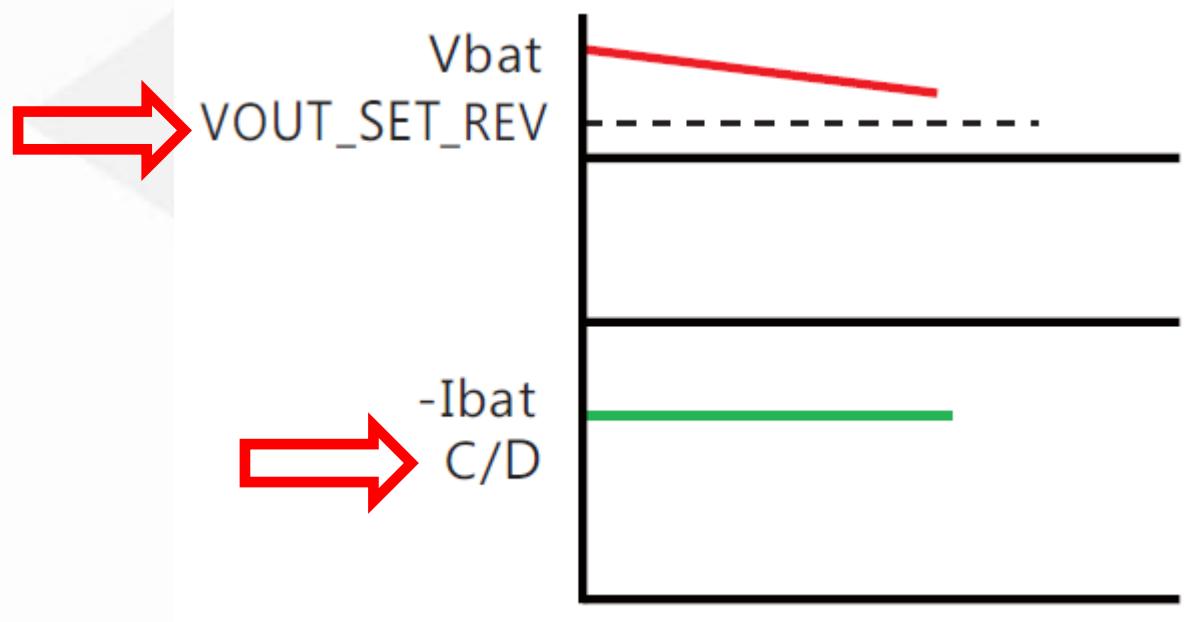
充電電壓設定 < 電池電壓，
且 C/D = 1

錯誤指令，5%充電電流限制

◆放電模式， $C/D=0$

錯誤指令，5%充電電流限制

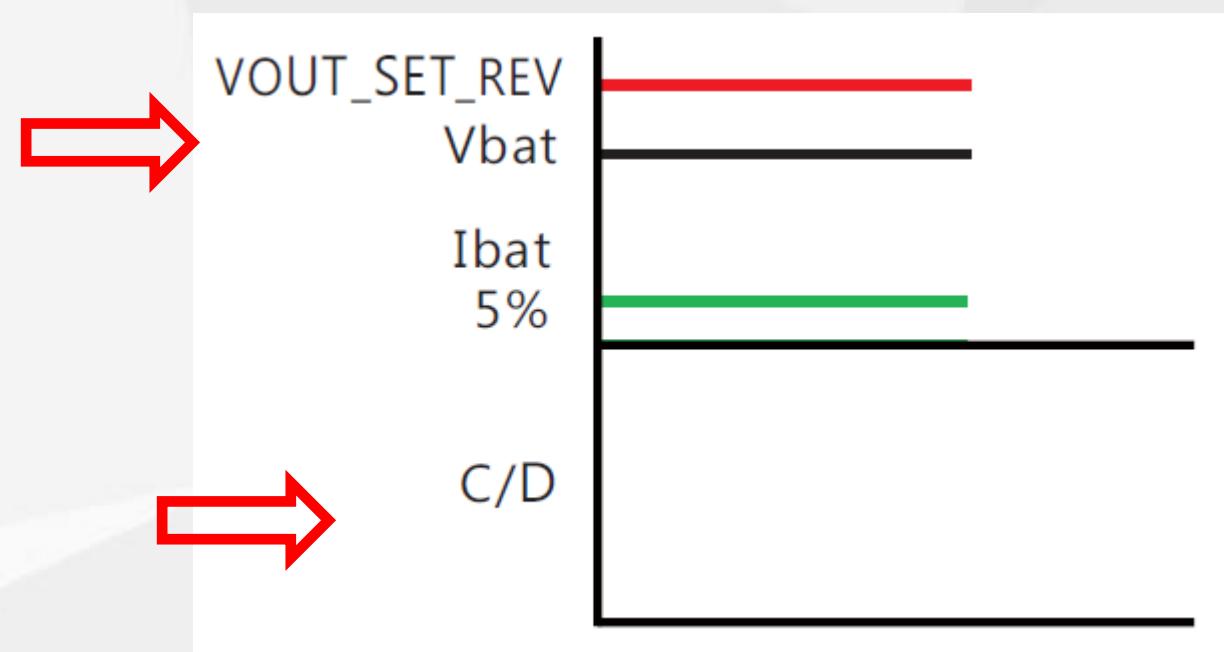
◆ 正常狀態



放電電壓設定 < 電池電壓，
且 C/D = 0

錯誤指令，5%充電電流限制

◆異常狀態



放電電壓設定>電池電壓，
且C/D=0

燈號狀態說明

◆ 綠燈恆亮，正向模式

燈色動作	說明
 綠燈	正常運作(AC轉DC模式，功能為一般電源或充電器)
 閃綠燈	放電模式(DC轉AC，功能為併網型逆變器)
 紅燈	機器產生異常保護(過溫，過負載，風扇異常)

燈號狀態說明

◆ 綠燈閃爍，反向模式

燈色動作	說明
 綠燈	正常運作(AC轉DC模式，功能為一般電源或充電器)
 閃綠燈	放電模式(DC轉AC，功能為併網型逆變器)
 紅燈	機器產生異常保護(過溫，過負載，風扇異常)

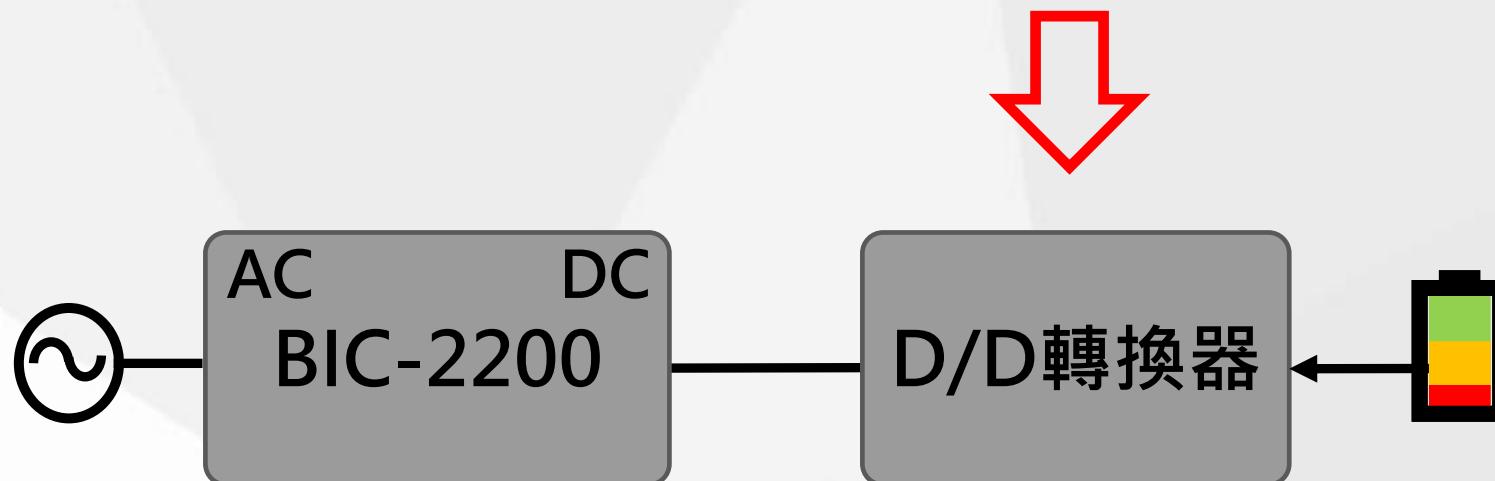
燈號狀態說明

◆ 紅燈恆亮，觸發保護

燈色動作	說明
 綠燈	正常運作(AC轉DC模式，功能為一般電源或充電器)
 閃綠燈	放電模式(DC轉AC，功能為併網型逆變器)
 紅燈	機器產生異常保護(過溫，過負載，風扇異常)

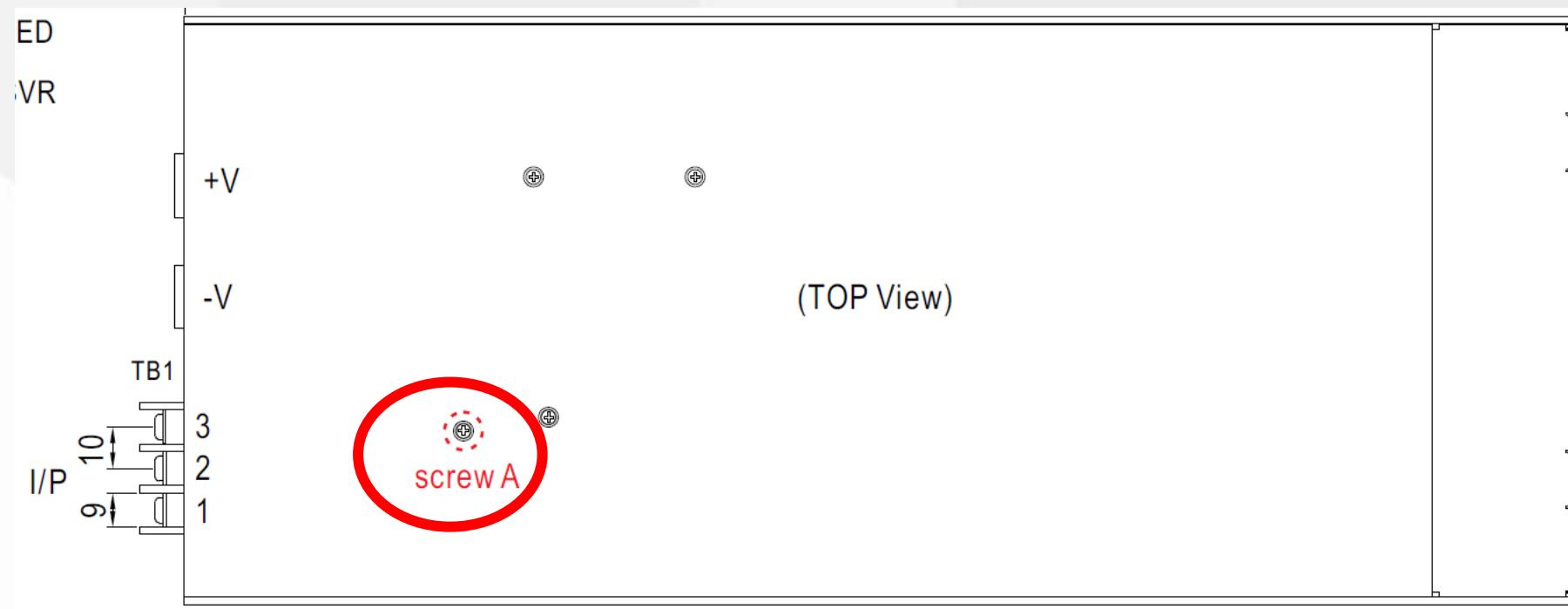
注意事項

◆ 標準品操作在CV模式，需搭配D/D轉換器才能雙向



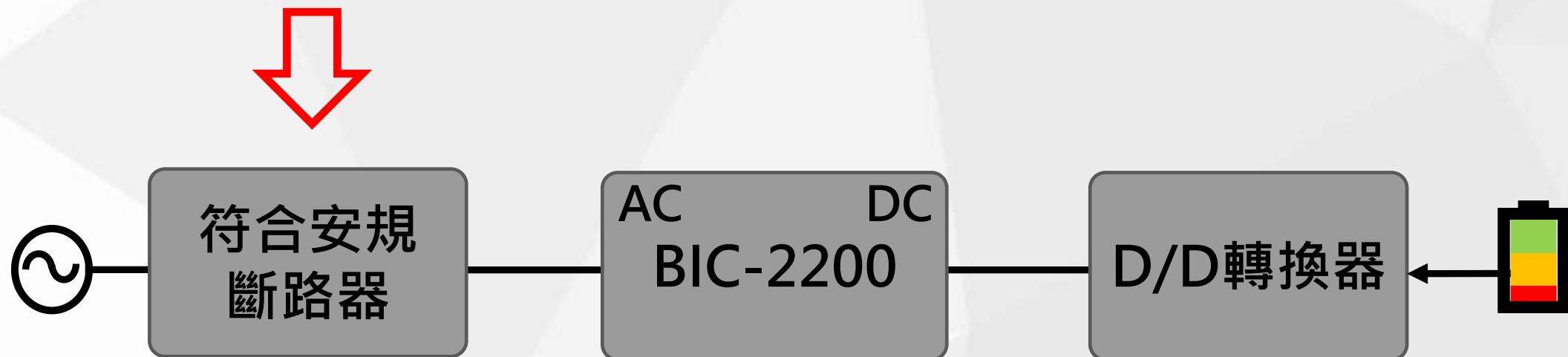
注意事項

◆ 執行WITHSTAND VOLTAGE或ISOLATION RESISTANCE
移除**A**螺絲



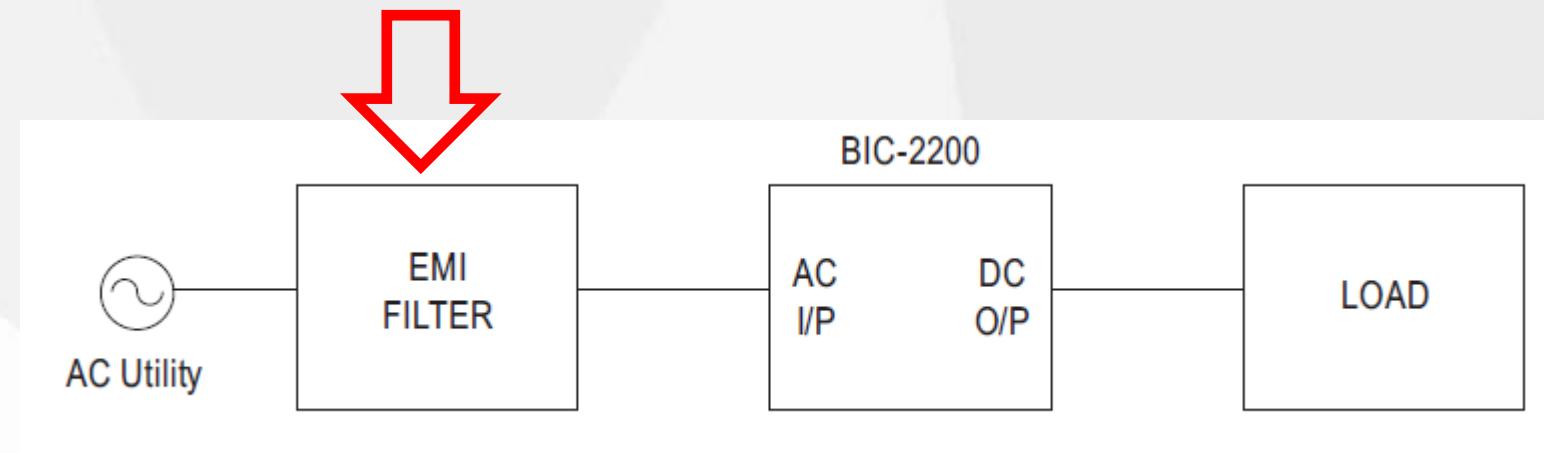
注意事項

- ◆符合反孤島效應保護，系統要接符合安規的斷路器



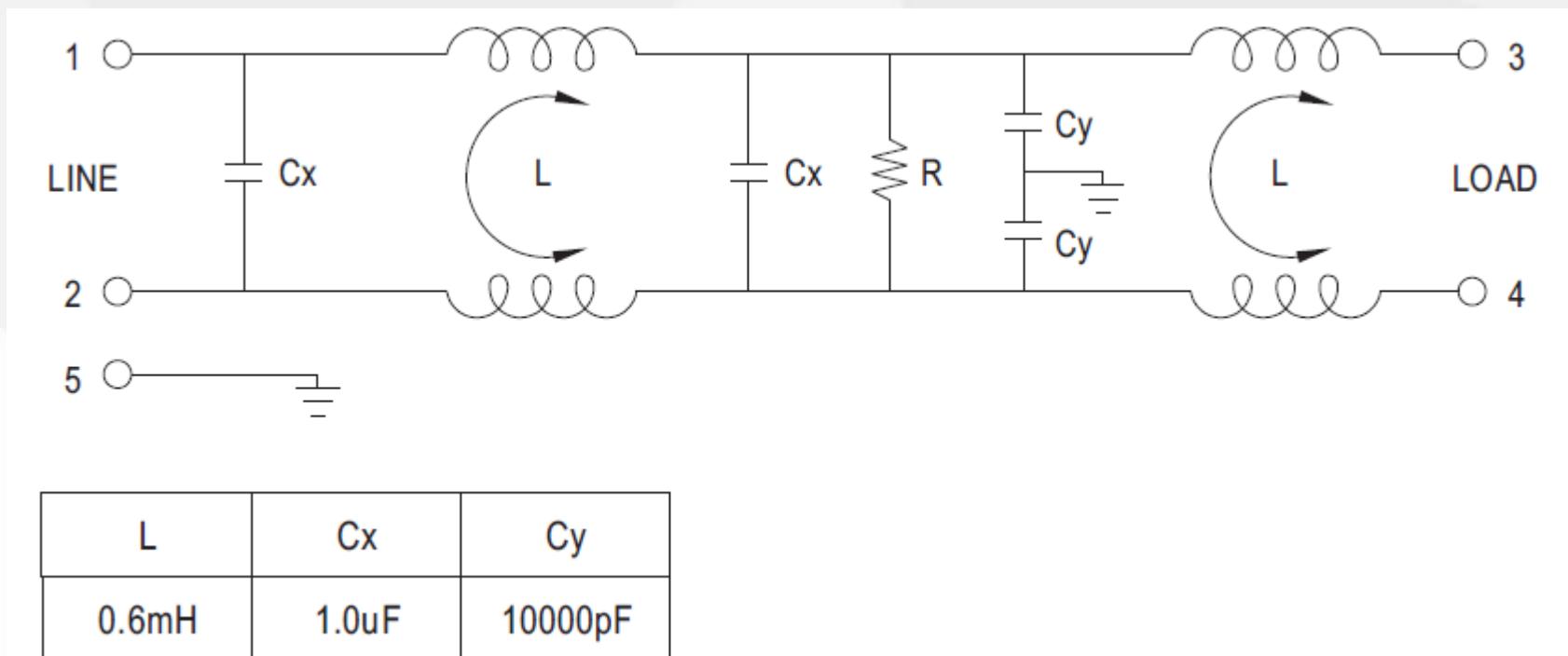
注意事項

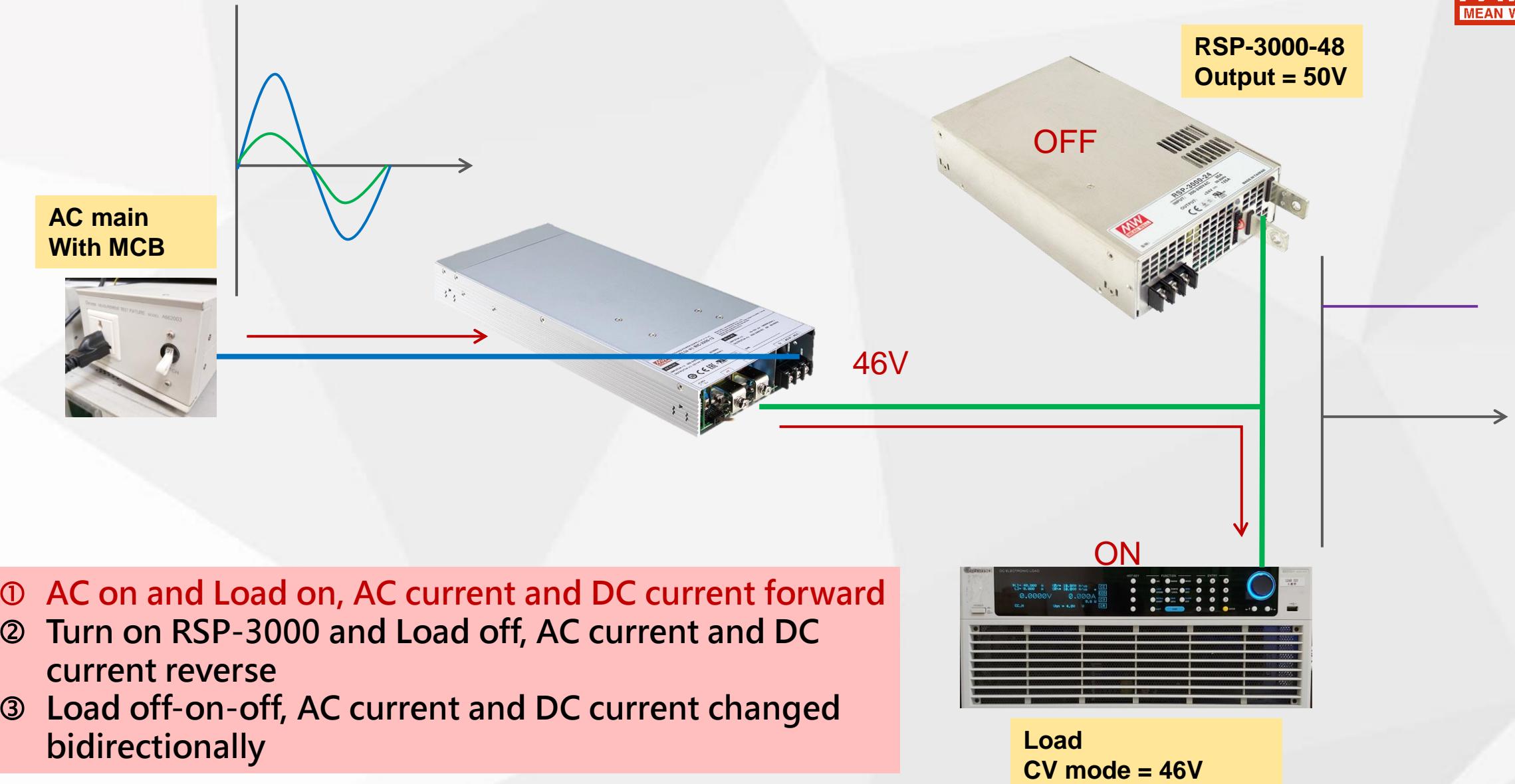
◆ EMI測試需要外接EMI FILTER

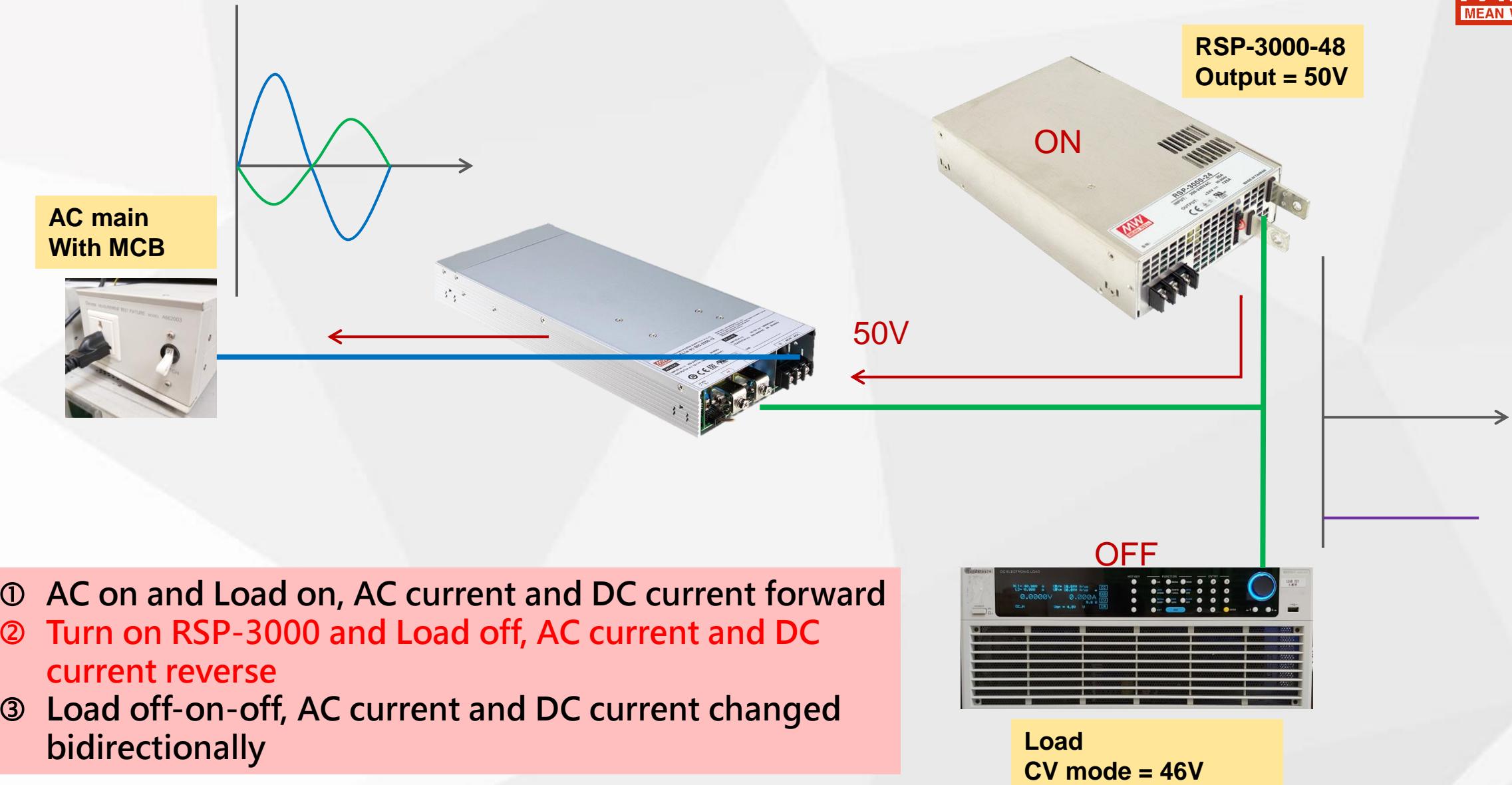


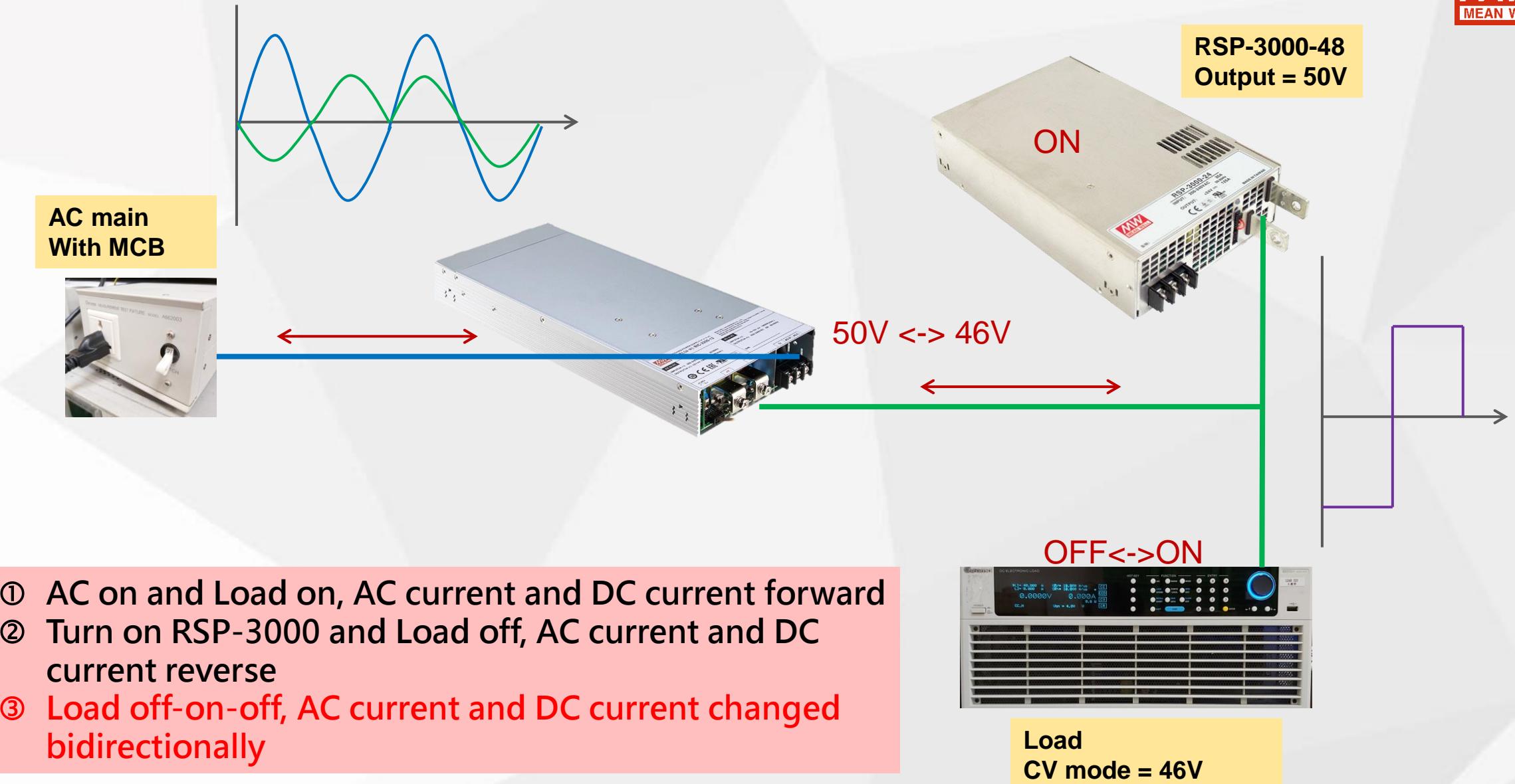
注意事項

◆ EMI FILTER線路與參數



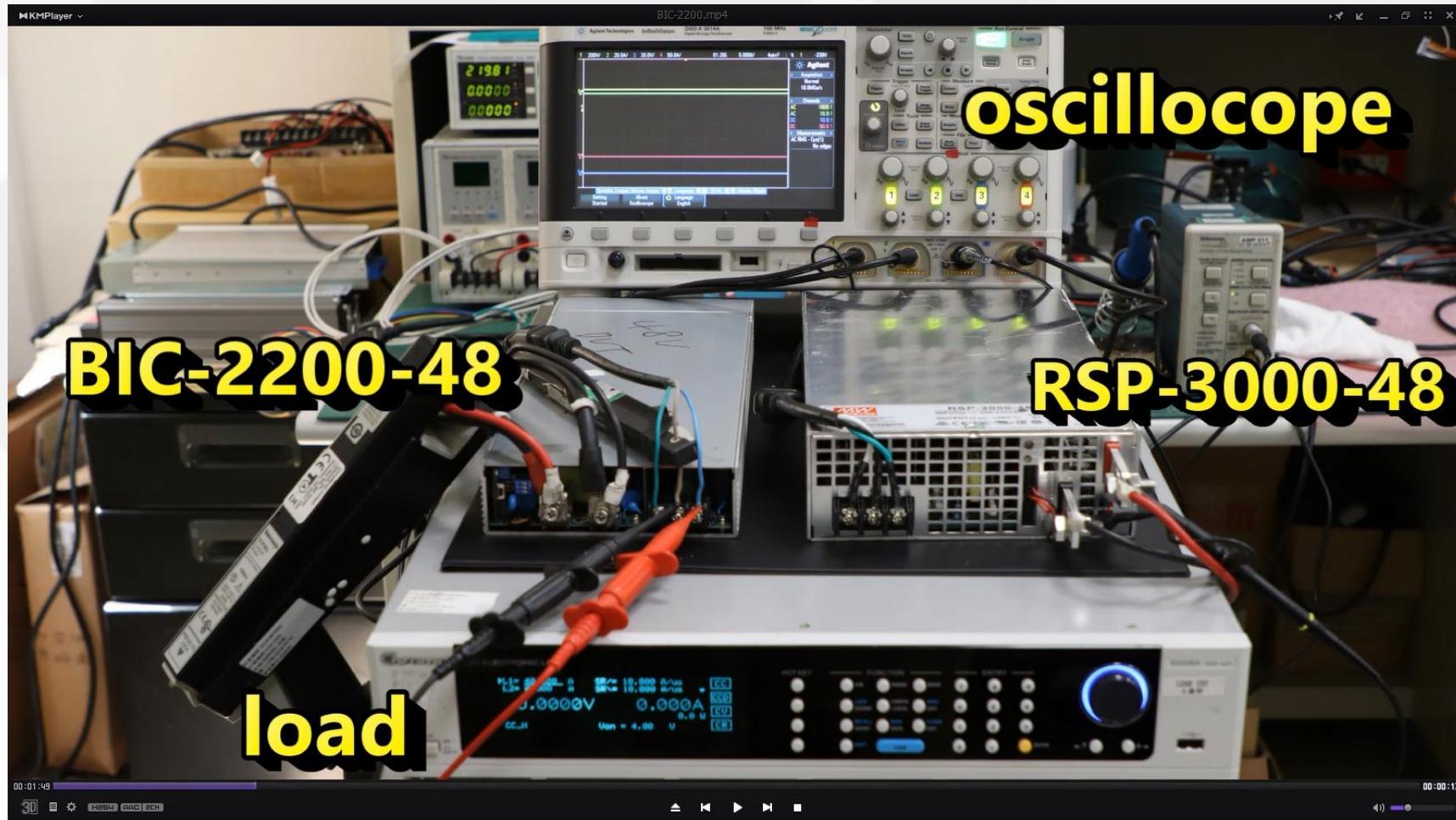






- ① AC on and Load on, AC current and DC current forward
- ② Turn on RSP-3000 and Load off, AC current and DC current reverse
- ③ Load off-on-off, AC current and DC current changed bidirectionally

影片





您信賴的電源夥伴