

Think Controls

FOTEK

Solid State Module

§ SSR series

§ HPR series

§ ESR series

§ TSR series

§ EZR series

§ ESR+ series

§ SSR-F series

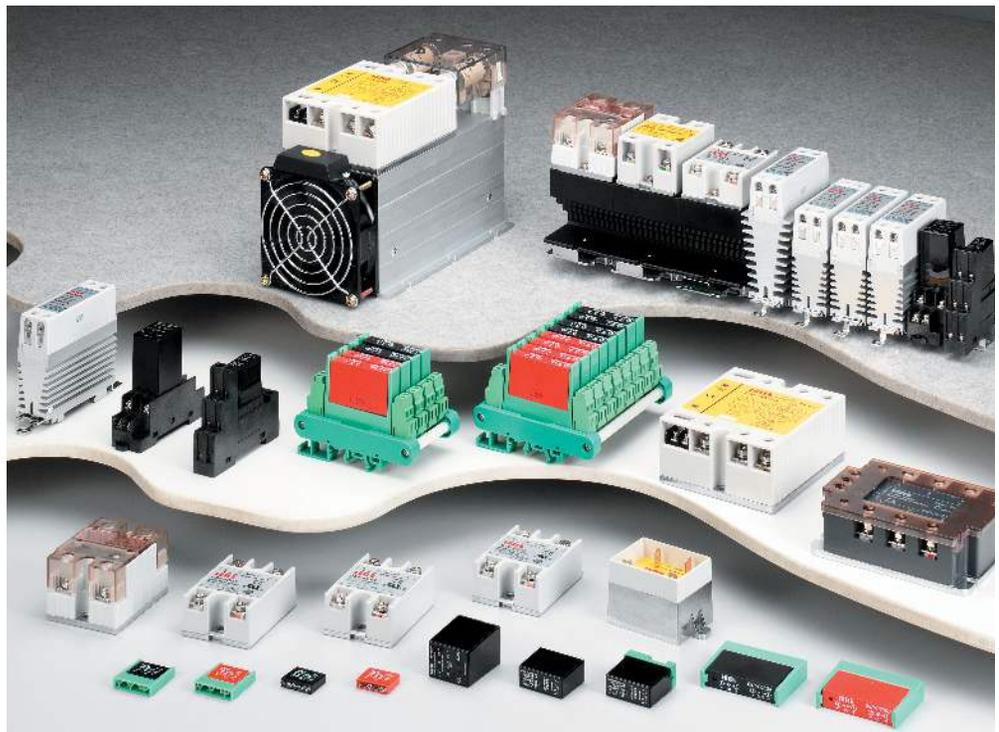
§ SSR-K series

§ SSR-R series

§ SSR-Y series

§ SSR-P series

§ SSR-M series



陽明電機股份有限公司
FOTEK CONTROLS CO., LTD.

- * High Dielectric strength over 4KV
- * High Isolation strength over 100MΩ/500VDC
- * With over heat protection Circuit (120°C)
- * High surge current sustenance
- * High surge voltage sustenance
- * Conformity with EN60947-4-3 and EN60950

- * 高電介強度超過4KV
- * 高絕緣強度超過100MΩ/500VDC
- * 附過熱保護回路可防止過熱破壞
- * 耐瞬間電流超過額定電流10倍以上
- * 附雙重突波吸收回路有效防止突波破壞
- * 符合EN60947-4-3 and EN60950標準

Guiding of model / 型號索引

Terminal type / 端子式

Ex: **SSR – 40 D A – H – R**
 1 2 3 4 5 6

1> Product / 產品

- 「SSR」= Single phase solid state module
- 「HPR」= High power solid state module
- 「TSR」= Three phases solid state module
- 「ESR」= Three phases High power solid state module
- 「EZR」= Plug type solid state module

2> Output current / 輸出電流

- 「10」= 10A 「25」= 25A 「40」= 40A
- 「50」= 50A 「60」= 60A 「80」= 80A

3> Input method / 輸入方式

- 「D」= 4 ~ 32VDC
- 「A」= 80 ~ 250VAC
- 「L」= 4 ~ 20mA
- 「V」= Variable resistor

4> Output voltage / 輸出電壓

- 「A」= AC voltage
- 「D」= DC voltage

5> Output voltage range / 輸出電壓範圍

- 「H」= High voltage type
- 「Non」= Standard type

6> Control method / 控制方式

- 「R」= Random control
- 「Non」= Zero cross control

PCB or Fuse type / 基板或保險絲型

Ex: **SSR – P 03 D A – H**
 1 2 3 4 5 6

1> Product / 產品

- 「SSR」= Single phase solid state module
- 「SCR」= Single phase linear solid state module

2> Mounting method or Others

- 「P」= PCB type
- 「M」= Mini PCB type
- 「Y」= Relay type
- 「R」= Relay type
- 「K」= Heat-sink type
- 「F」= Fuse type

3> Output current / 輸出電流

- 「03」= 3A 「10」= 10A
- 「25」= 25A 「40」= 40A

4> Input method / 輸入方式

- 「D」= 4 ~ 32VDC
- 「A」= 80 ~ 250VAC
- 「L」= 4 ~ 20mA

5> Output voltage / 輸出電壓

- 「A」= AC voltage
- 「D」= DC voltage

6> Output voltage range / 輸出電壓範圍

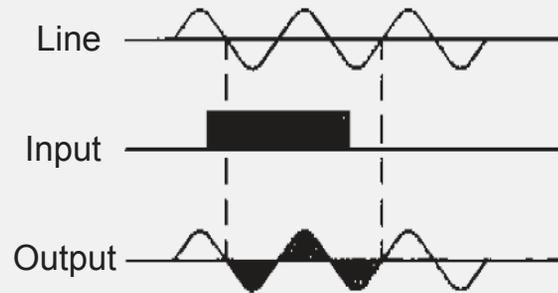
- 「H」= High voltage type
- 「Non」= Standard type

Control method / 控制方式

Zero cross trigger method

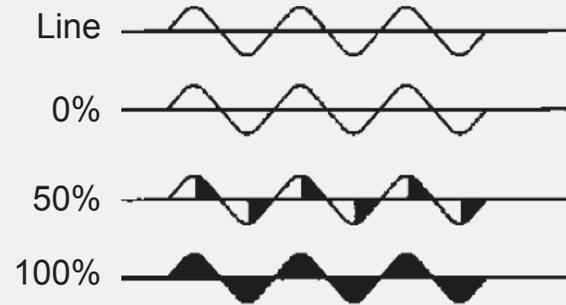
Output will be turned ON or Turned OFF only on the Zero point of sine wave, that may avoid to occur the EMI or RFI. Specially suited to control the resistive, capacitive and non-saturated inductive load.

輸出只有在正弦波的零點上有輸入訊號時才會打開或關閉，以避免產生突波或EMI / RFI。特別適用於控制阻抗性或電容性或不飽和感抗性等負載。



Variable resistance control method (Trimmer control)

Power output is controlled by the Trigger angle of the Triac that is controlled with variable resistor.
 (250KΩ/110VAC, 500KΩ/220VAC, 1MΩ/220VAC)
 以可變電阻控制Triac的觸發角來控制輸出功率。
 (250KΩ/110VAC, 500KΩ/220VAC, 1MΩ/380VAC)



Application hints / 應用說明

Input	NPN	Output status	NO	Input	PNP	Output status	NO	Input	L.S.	Output status	NO
Input	NPN	Output status	NC	Input	PNP	Output status	NC	Latch circuit (AC to AC)			

■ Specification [Rated current corresponding to Resistive load]

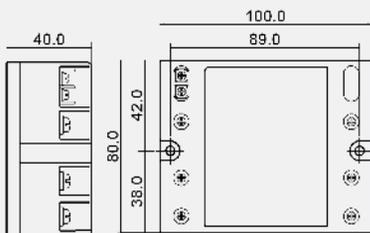
Type	型式	Standard type / 標準型				
Model	型號	ESR-25DA	ESR-40DA	ESR-60DA	ESR-80DA	ESR-100DA
Rated current	額定電流	25A max	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	259A ² s	664A ² s	1800A ² s	3200A ² s	7200A ² s
Surge current	耐突波電流	275A	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	24 ~ 380VAC				

Type	型式	High voltage type / 高壓型				
Model	型號	ESR-25DA-H	ESR-40DA-H	ESR-60DA-H	ESR-80DA-H	ESR-100DA-H
Rated current	額定電流	25A max	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	259A ² s	664A ² s	1800A ² s	3200A ² s	7200A ² s
Surge current	耐突波電流	275A	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	90 ~ 480VAC				

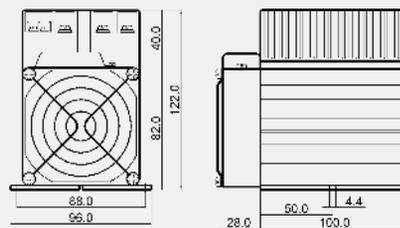
General specification / 共同規格		
Input voltage	輸入電壓	4 ~ 32 VDC
Turn off voltage	關閉電壓	< 3.0 VDC
Trigger current	觸發電流	30mA max
Control method	控制方式	Zero cross switching
Leakage current	洩漏電流	5 mA max.
Response time	反應時間	8.3 ms (60Hz)
Over heat protection	過熱保護	Turn off output over 120°C ; Reset below 110°C
Input immunity	輸入耐突波	2 KV (EN61000-4-4)
Isolation strength	電介強度	4 KVrms (EN60950/VDE0805)
Insulation strength	絕緣強度	100MΩ / 500VDC (EN60950/VDE0805)
Circumstance	工作環境	-40°C ~ +80°C ; 35 ~ 85%RH

■ Outline dimension / 外形尺寸

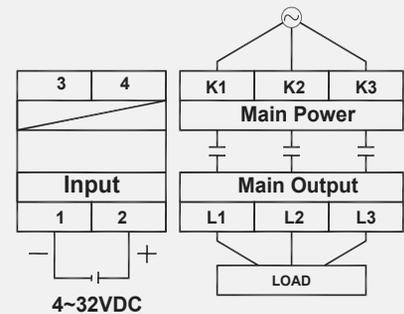
ESR-xxDA / ESR-xxDA-H



ESR-□□□+
Heat sink (HS-ESR-100) + Fan



■ Connection / 接線圖



High Power Three Phase AC to AC Solid State Module

ESR series

CE, RoHS

■ Specification [Rated current corresponding to Resistive load]

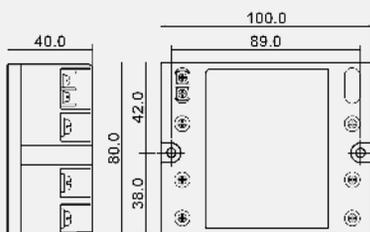
Type	型式	Standard type / 標準型				
Model	型號	ESR-25AA	ESR-40AA	ESR-60AA	ESR-80AA	ESR-100AA
Rated current	額定電流	25A max	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	259A ² s	664A ² s	1800A ² s	3200A ² s	7200A ² s
Surge current	耐突波電流	275A	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	24 ~ 380VAC				

Type	型式	High voltage type / 高壓型				
Model	型號	ESR-25AA-H	ESR-40AA-H	ESR-60AA-H	ESR-80AA-H	ESR-100AA-H
Rated current	額定電流	25A max	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	259A ² s	664A ² s	1800A ² s	3200A ² s	7200A ² s
Surge current	耐突波電流	275A	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	90 ~ 480VAC				

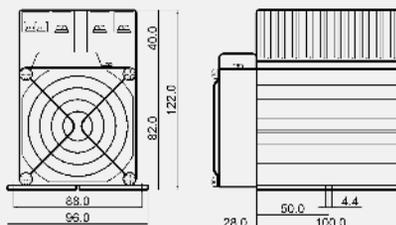
General specification / 共同規格		
Input voltage	輸入電壓	20 ~ 265 VAC/DC
Turn off voltage	關閉電壓	< 10 VAC/DC
Trigger current	觸發電流	3VA max.
Control method	控制方式	Zero cross switching
Leakage current	洩漏電流	5 mA max.
Response time	反應時間	8.3 ms (60Hz)
Over heat protection	過熱保護	Turn off output over 120°C ; Reset below 110°C
Input immunity	輸入耐突波	2 KV (EN61000-4-4)
Isolation strength	電介強度	4 KVrms (EN60950/VDE0805)
Insulation strength	絕緣強度	100MΩ / 500VDC (EN60950/VDE0805)
Circumstance	工作環境	-40°C ~ +80°C ; 35 ~ 85%RH

■ Outline dimension / 外形尺寸

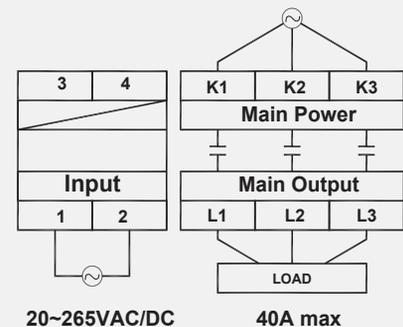
ESR-xxDA / ESR-xxDA-H



ESR-□□□+
Heat sink (HS-ESR-100) + Fan



■ Connection / 接線圖



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■ Specification [Rated current corresponding to Resistive load]

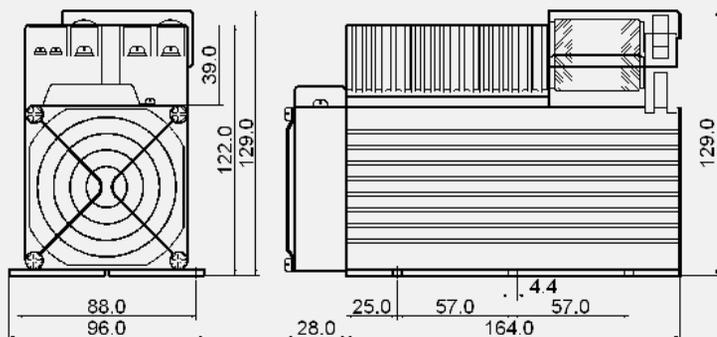
Type	型式	Standard fuse type / 標準保險絲型			
Model	型號	ESR-40DA+	ESR-60DA+	ESR-80DA+	ESR-100DA+
Rated current	額定電流	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	664A ² s	1800A ² s	3200A ² s	7200A ² s
Protection fuse	保險絲	40A/600VAC	63A/600VAC	80A/600VAC	100A/600VAC
Surge current	耐突波電流	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	24 ~ 380VAC			

Type	型式	High voltage fuse type / 高壓保險絲型			
Model	型號	ESR-40DA-H+	ESR-60DA-H+	ESR-80DA-H+	ESR-100DA-H+
Rated current	額定電流	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	664A ² s	1800A ² s	3200A ² s	7200A ² s
Protection fuse	保險絲	40A/600VAC	63A/600VAC	80A/600VAC	100A/600VAC
Surge current	耐突波電流	650A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	90 ~ 480VAC			

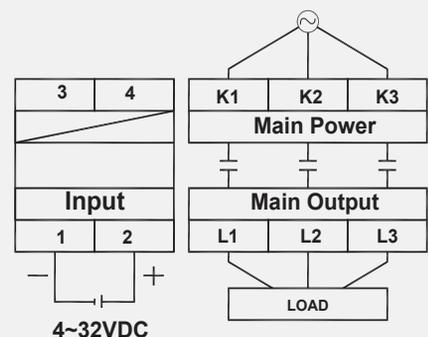
General specification / 共同規格		
Input voltage	輸入電壓	4 ~ 32 VDC
Turn off voltage	關閉電壓	< 3.0 VDC
Trigger current	觸發電流	30mA max.
Control method	控制方式	Zero cross switching
Leakage current	洩漏電流	5 mA max.
Response time	反應時間	8.3 ms (60Hz)
Over heat protection	過熱保護	Turn off output over 120°C ; Reset below 110°C
Input immunity	輸入耐突波	2 KV (EN61000-4-4)
Isolation strength	電介強度	4 KVrms (EN60950/VDE0805)
Insulation strength	絕緣強度	1000MΩ / 500VDC (EN60950/VDE0805)
Circumstance	工作環境	-40°C ~ +80°C ; 35 ~ 85%RH

■ Outline dimension / 外形尺寸

ESR-xxDA+ / ESR-xxDA-H+



■ Connection / 接線圖



High power three phase / Fuse + Heat-sink type AC to AC Solid State Module

ESR+ series

CE, RoHS

■ Specification [Rated current corresponding to Resistive load]

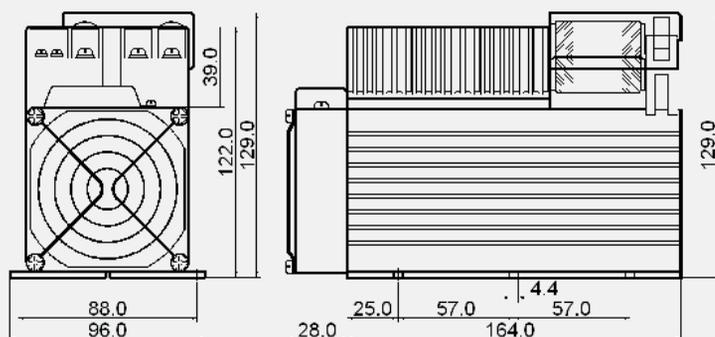
Type	型式	Standard fuse type / 標準保險絲型			
Model	型號	ESR-40AA+	ESR-60AA+	ESR-80AA+	ESR-100AA+
Rated current	額定電流	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	664A ² s	1800A ² s	3200A ² s	7200A ² s
Protection fuse	保險絲	40A/600VAC	63A/600VAC	80A/600VAC	100A/600VAC
Surge current	耐突波電流	410A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	24 ~ 380VAC			

Type	型式	High voltage fuse type / 高壓保險絲型			
Model	型號	ESR-40AA-H+	ESR-60AA-H+	ESR-80AA-H+	ESR-100AA-H+
Rated current	額定電流	40A max.	60A max.	80A max.	100A max.
I ² t for fuse	熔斷電流	664A ² s	1800A ² s	3200A ² s	7200A ² s
Protection fuse	保險絲	40A/600VAC	63A/600VAC	80A/600VAC	100A/600VAC
Surge current	耐突波電流	650A	850A	1200A	1750A
Peak voltage	耐突波電壓	1200VAC	1200VAC	1200VAC	1200VAC
Output voltage	輸出電壓	90 ~ 480VAC			

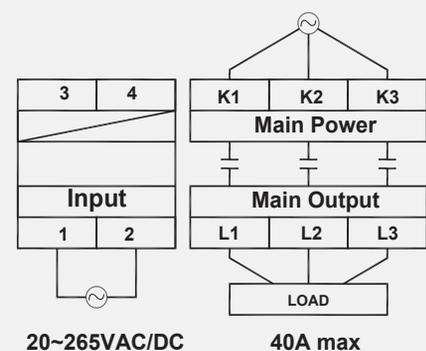
General specification / 共同規格		
Input voltage	輸入電壓	20 ~ 265 VAC/DC
Turn off voltage	關閉電壓	< 10 VAC/DC
Trigger current	觸發電流	3VA max.
Control method	控制方式	Zero cross switching
Leakage current	洩漏電流	5 mA max.
Response time	反應時間	8.3 ms (60Hz)
Over heat protection	過熱保護	Turn off output over 120°C ; Reset below 110°C
Input immunity	輸入耐突波	2 KV (EN61000-4-4)
Isolation strength	電介強度	4 KVrms (EN60950/VDE0805)
Insulation strength	絕緣強度	100MΩ / 500VDC (EN60950/VDE0805)
Circumstance	工作環境	-40°C ~ +80°C ; 35 ~ 85%RH

■ Outline dimension / 外形尺寸

ESR-xxAA+ / ESR-xxAA-H+



■ Connection / 接線圖





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Specification may be modified without notice in advance (2012/10/12)

陽明電機股份有限公司
FOTEK CONTROLS CO., LTD.