

## 特点:

- Two sets of main contacts + one set of auxiliary contacts
- When the main contacts are stuck, the auxiliary contacts shall fulfill the safety detection function (IEC 61810-3).
- Main contact gap > 3.6 mm, auxiliary contact gap > 0.7 mm
- Suitable for inverters used in solar photovoltaic power generation and AC charging stations.
- The coil holding voltage can be reduced to 50-60% of the coil's rated voltage to achieve energy-saving benefits.

## Safety Certification

UL (Number): Under Certification

TÜV (Number): Under Certification

CQC (Number): Under Certification

## Contact Data

Contact Form	2 Form A, 1 Form B
Contact material	AgSnO2
Contact resistance	Main contact: 10mΩMax (@6VDC 20A) Auxiliary contact: 100mΩMax (@6VDC 20A)
Rated Load (Resistive)	480VAC 40A
Max.Switching Voltage	480VAC
Max.Switching Current	40A
Max.Switching Power	19,200VA
Min.load	6VDC 100mA
Operate time (at rated. volt.)	≤30ms
Release time (at rated. volt.)	≤10ms

Electrical endurance	*(1) NO: 35A 480VAC, 5×10 <sup>4</sup> ops
	*(2) NO: 40A 480VAC, 1×10 <sup>4</sup> ops
	(3) NO: making 10A, loading 40A, breaking 10A, 480VAC, 5×10 <sup>4</sup> ops
	(4) NC: 1A 277VAC/30VDC, 1×10 <sup>5</sup> ops

Note:

- (1) The above parameters are initial values.  
 (2) For \* load, wired according to Figure e in Table 16 of IEC 61810-1.  
 (3) Electrical life on-off ratio: 1 second:9 seconds

## Insulation Data

Insulation Resistance	1000MΩ Min (500VDC)
Insulation Class	IIIa
Proof Tracking Index	PTI 250V



## Dielectric strength

Between open main contacts:	2000VAC, 50/60Hz 1min
Between the main contact and auxiliary contact:	5000VAC, 50/60Hz 1min
Between the coil and the main contact:	2000VAC, 50/60Hz 1min
Main contact group:	5000VAC, 50/60Hz 1min
Between the coil and auxiliary contacts:	2000VAC, 50/60Hz 1min
Between the broken auxiliary contacts:	1000VAC, 50/60Hz 1min

## Others Data

Environmental requirements:	Complies with RoHS, ELV, and REACH regulations	
Temperature rise	< 70K (After energizing the coil at rated voltage for 200ms, set the holding voltage to 60% of rated voltage, load current 40A, @85°C)	
Shock resistance	Destructive	100G Min
	Functional	10G Min
Vibration resistance	Destructive	10~55Hz 1.5mm DA
	Functional	10~55Hz 1.5mm DA
Mechanical endurance	1×10 <sup>6</sup> ops	
Ambient temperature	-40°C~85°C (No Condensation)	
Humidity	5%~85%RH	
Termination	PCB	
Unit weight	Approx. 65g	

Note:

- (1) The above parameters are initial values.

## Coil Data

Nominal Voltage VDC	Nominal current ±10% mA	Coil resistance ±10% Ω	Maximum continuous applied voltage	Pickup voltage (MAX.)	Release voltage (Min.)	Nominal Power W
12	157	76.6	110% Nominal Voltage	75% Nominal Voltage	5% Nominal Voltage	1.88
24	78	306				
12	250	48				3
24	125	192				

Note:

- (1) The relay applies full coil voltage for 200 milliseconds.  
 (2) The coil holding voltage is the voltage that remains at 50-60% of the nominal coil voltage after the coil excitation voltage is maintained for 200 ms.  
 (3) The relay coil must not be subjected to a voltage exceeding the upper limit of the holding voltage for extended periods to prevent overheating and burnout of the relay.

### Safety Certification Program

Project	No.	Certified Load
UL	Under certification	(1) NO: 35A 480VAC, $5 \times 10^4$ ops (2) NO: 40A 480VAC, $1 \times 10^4$ ops
TUV	Under certification	(3) NO: making 10A, loading 40A, breaking 10A, 480VAC, $5 \times 10^4$ ops
CQC	Under certification	(4) NC: 1A 277VAC/30VDC, $1 \times 10^5$ ops

### Ability to withstand abnormal currents

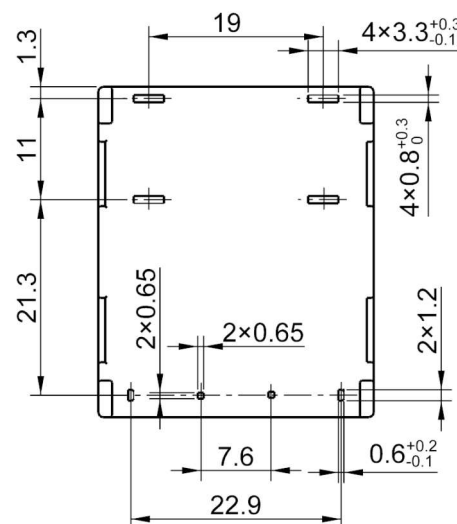
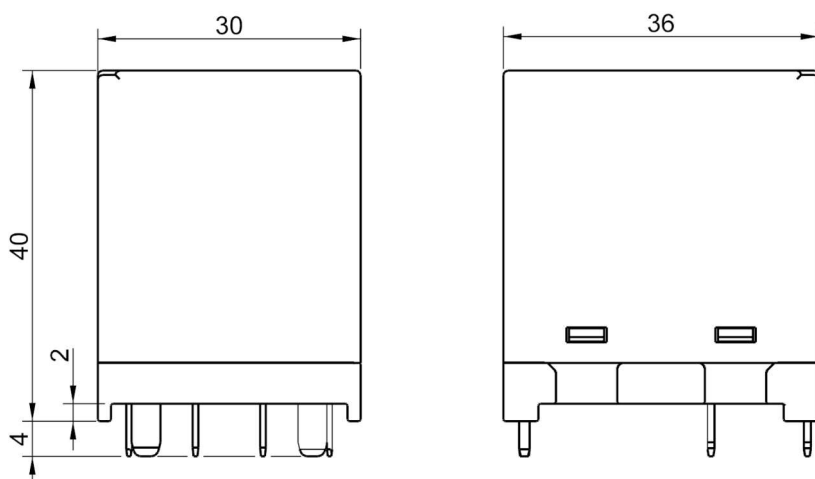
Based on IEC 62955 requirements:  $I_p \geq 1.85\text{KA}$ ,  $I^2t \geq 4.5\text{kA}^2\text{s}$

Based on IEC 62752 requirements:  $I_p \geq 1.5\text{KA}$ ,  $I^2t \geq 6\text{kA}^2\text{s}$

Based on IEC 61851 requirements (inrush current): 230A for 100us

Based on IEC 62955 requirements (lightning current): 3kA for 8/20us

### External Dimensions



Note:

Lead dimensions are pre-soldering dimensions;

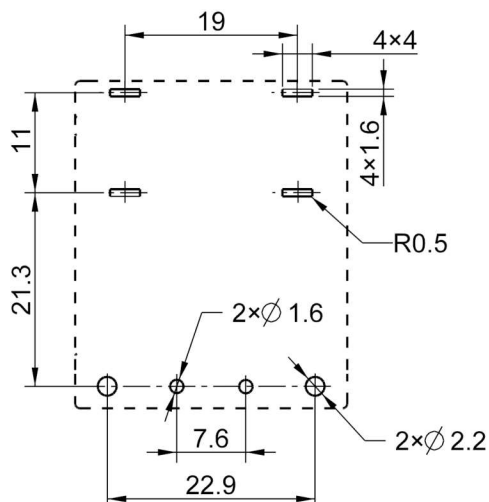
Unspecified dimensional tolerances:

Dimensions <1mm:  $\pm 0.2\text{mm}$

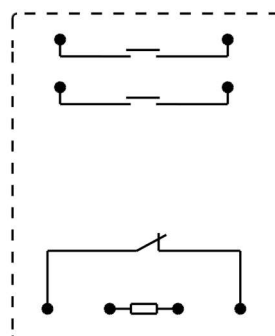
Dimensions 1-5mm:  $\pm 0.3\text{mm}$

Dimensions >5mm:  $\pm 0.4\text{mm}$

### Mounting Hole Diagram (Bottom View)



### Wiring Diagram (Bottom View)



Ordering Information

SPV40	-S	-2	12	D	M	F	-XX	
								Special Parameters: None - Standard Type, Letters or Numbers - Special Requirements
								Auxiliary contact: None - No auxiliary contact, F - With auxiliary contact
								Contact Form: M-Form A
								Coil power consumption: D-1.88W, P-3W
								Coil Specifications (VDC): 12, 24
								Number of contact groups: 2-2 groups
								Package Type: S-Anti-Solder Flux Type
								Type: SPV40

Statement

Product specifications are for reference only and are subject to change without notice.Sanyou cannot evaluate all performance parameter requirements for every specific application.

Therefore, customers should select products based on their specific operating conditions.For inquiries, please contact Sanyou for additional technical support. However, product selection responsibility rests solely with the customer.