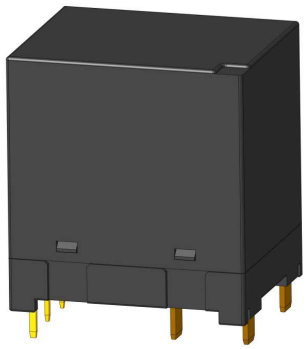
三友继电器
® SANYOU RELAYS
Relays for advanced technology

AC Charging Pile Relay SPV40



Features：

- 2 Main contacts +1 Auxiliary contact.
- Auxiliary contact can detect main contact welding in order to construct a safety circuit(IEC 61810-3)
- Contact gap:Min 3.6mm (Main contact),each contact Min 1.0mm (Auxiliary contact)
- Applicable to inverters for solar photovoltaic power generation, AC charging piles
- Low coil holding voltage contributes to save energy

Contact Data

Contact arrangement	2 Form A(Main contact) ,1Form B(Aux-contact)
Rated load (Resistive)	Main contact：40A 480VAC Auxiliary contact：1A 277VAC/1A 30VDC
Max. Switching current	Main contact：40A Auxiliary contact：1A
Max. Switching voltage	Main contact：480VAC Auxiliary contact：30VDC，277VAC
Max. Switching power	Main contact： 19200VA Auxiliary contact：277VA/30W
Electrical endurance	1NO: 35A 480VAC, Resistive load, 85℃, 1s on 9s off,3 x10^4 times 1NO: 40A 480VAC, Resistive load, 85℃, 1s on 9s off,1x10^4 times 2NO: Making 10A, Carrying 40A ,Breaking 10A,480VAC, Resistive load, 85℃, 1s on 9s off,5×10^4 times. NC:1A 277VAC/30VDC, Resistive load, 85℃, 1s on 9s off,10×10^4 times.

Parameters Data

Contact material	Main contact:AgSnO2 Auxiliary contact:AgNi	
Contact resistantce	Main contact:10mΩ max(@ 6VDC 20A) Auxiliary contact:100mΩ max(@ 6VDC 1A)	
Operate time (at nomi.volt .)	30ms.Max.	
Release time (at nomi.volt .)	10ms.Max.	
Insulation resistance	1000MΩ (500VDC)	
Dielectric strength	Between open main contacts	2000VAC， 50/60Hz 1min.
	Between main contact and auxiliary contact	5000VAC， 50/60Hz 1min.
	Between main contact sets	2000VAC， 50/60Hz 1min.
	Between auxiliary contact and coil	5000VAC， 50/60Hz 1min.
	Between main contact and coil	2000VAC， 50/60Hz 1min.
	Between disconnected auxiliary contact	1000VAC， 50/60Hz 1min.
Temperature rise	< 70K(After the coil is energized with rated voltage for 100ms,set the holding voltage to 60% of rated voltage, load current carrying 40A, @85℃)	
Shock resistance	Functional 98m/s^2	
	Destructive 980m/s^2	
Vibration resistance	10Hz to 55Hz 1.0mm DA	
Mechanical endurance	1×10^6 OPS	
Ambient temperature	-40℃ to +85℃	
Humidity	5% to 85%RH	
Termination	PCB	
Weight	Approx. 65g	

Notes:(1):The data shown above are initial values.

Coil Data

Nominal Voltage VDC	Max. Operate Voltage VDC	Min. Release Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω	Coil Power	Holding Voltage
12	9	0.6	13.2	76.6×(1±10%)	1.88	30% to 100% Nominal Voltage
24	18	1.2	26.4	306.4×(1±10%)		
12	9	0.6	13.2	48×(1±10%)	3	40% to 100% Nominal Voltage
24	18	1.2	26.4	306.4×(1±10%)		

Note:(1)To avoid overheating and burning,the coil can not be consistently applied to with voltage larger than maximum holding voltage.
(2)The coil holding voltage is the voltage applied to coil 100ms after the rated voltage.

Safety approval ratings

Certificates	UL	TUV	CQC
File No.	pending	pending	pending
Approved ratings	NO:35A 480VAC Resistive 85℃ 40A 480VAC Resistive 85℃ Making 10A Carrying 40A Breaking 10A 480V 85℃ NC:1A 277VAC/30VDC Resistive 85℃		

Note:(1) All values unspecified are at room temperature.
(2) Only some typical rating are listed above.If more details are required,please contact us.

Ordering Information

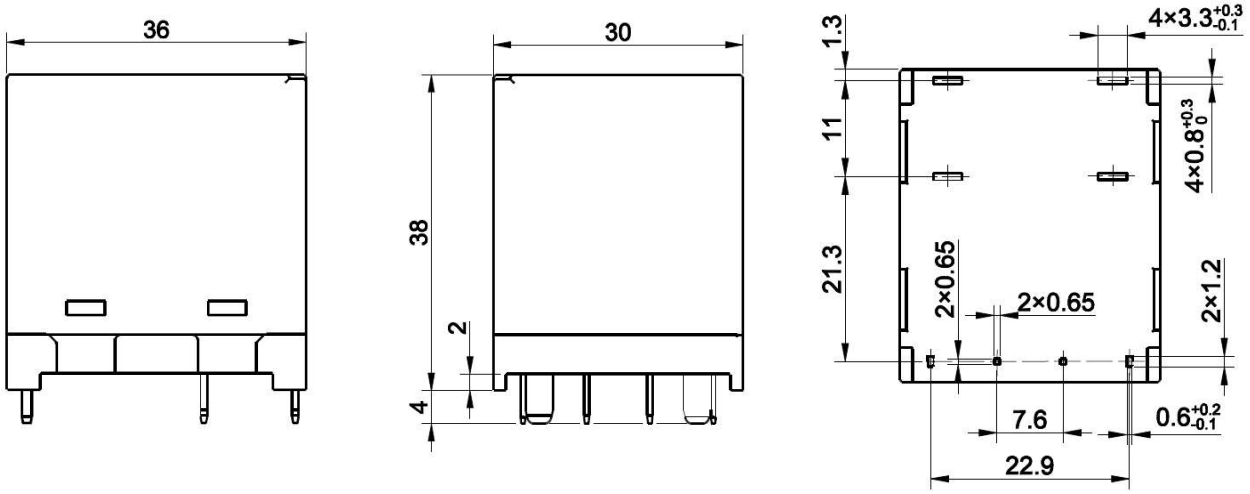
SPV40 -S -2 12 D M F XXX

- XXX: Special parameter: Nil-Standard,XXX-Customer requirements
- F: Auxiliary contact form:Nil-No auxiliary contact, F-Form B
- M: Main contact form:M-Form A
- D: Coil power:D-1.88W , P-3W
- 12: Coil Voltage(VDC): 12, 24
- -2: Main contact arrangement:2-2 poles
- -S: Encapsulated type: S: Plastic seal (1)(2)
- SPV40: Type:SPV40

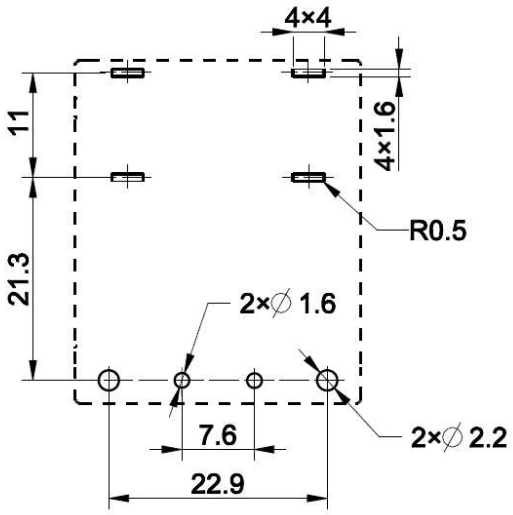
Note:(1) Anti-solder relays cannot be used in environments containing contaminants such as H2S, SO2, NO2, dust, etc.
(2) Cleaning and surface treatment are not recommended for solder resist relays after they are assembled on PCBs
(3) Coil power 3W model meets IEC62955 standard
(4) Customers' special needs need to be customized with Sanyou

Outline Dimensions, wiring diagram, PCB layout (unit:mm)

Outline Dimnsions

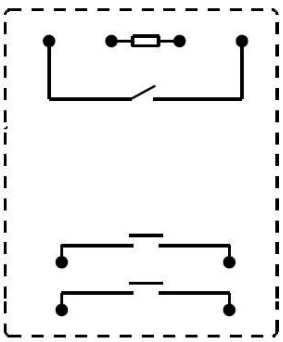


PCB layout



Unless otherwise specified
If dimension < 1mm, tolerance: ±0.2mm;
If dimension 1~5mm, tolerance: ±0.3mm;
If dimension > 5mm, tolerance: ±0.4mm;

Wiring Diagram(Bottom view)



Statement:

This product specification is for reference only, subject to change without prior notice.We could not evaluate all test conditions for every possible application, thus customers should be in a right position to choose suitable products for their own application. If in doubt, please contact Sanyou for more technical support. However,it's the customer's responsibility to determine which product should be used.

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