



### »» Features

- High duty relay with 26A 277VAC.
- UL/CUL, TUV safety approved.
- Contact gap can be greater than 1.5mm & 1.85mm.
- Conforms to European photovoltaic standard IEC 62109-1.
- Coil holding voltage can be reduced to 50~55% V of the nominal coil voltage for saving energy.
- High performance PCB power relay for photovoltaic power generation systems (solar inverter).
- Complies with RoHS-Directive 2011/65/EU.



### »» Type List

Terminal style	Contact form	Insulation system	Designation (provided with)	
			Flux tight	
PCB terminal	1A (SPNO)	F	310P-1A-F-C	
			310P-1A1-F-C	

### »» Ordering Information

310	P	-	1A	<input type="checkbox"/>	-	F	-	C	<input type="checkbox"/>
1	2		3	4		5		6	7

1. 310 -- Basic series designation

2. P -- PCB terminal

3. 1A -- Single pole normally open

4. Blank -- Contact gap  $\geq 1.5\text{mm}$   
1 -- Contact gap  $\geq 1.85\text{mm}$

5. F -- Class F

6. C -- Flux tight

7.  -- Coil voltage (please refer to the coil rating data for the availability)

### »» Contact Rating

Resistive load	26A 240VAC, On 1s /Off 9s, at 85°C, 30K ops.
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### »» Coil Rating (DC)

◆ For contact gap  $\geq 1.5\text{ mm}$

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Pick up voltage (Max.) at 23°C <sup>(1)</sup>	Drop out voltage (Min.) at 23°C	Continuous voltage at 85°C <sup>(2)</sup>	Power consumption at rated / holding voltage
12	125	96	75 % of rated voltage	10 % of rated voltage	50~55 % of rated voltage	approx. 1.5W / 0.45W <sup>(2)</sup>
24	62.5	384				

Notes : (1) To energize relay properly apply 100%~120% nominal coil voltage for 200ms.

(2) Coil holding voltage is 50~55% of nominal voltage after applying nominal voltage for 200ms.

### »» Specification

Contact material	Ag alloy	
Contact resistance <sup>(1)</sup>	100mΩ Max. (at 1A/6VDC by 4-wire resistance measurement) 6 mΩ Max. (By voltage drop 10A)	
Operate time <sup>(1)</sup>	20ms Max.	
Release time <sup>(1)</sup>	10ms Max.	
Vibration resistance	Operating extremes	10~55Hz , amplitude 1.5 mm
	Damage limits	10~55Hz , amplitude 2.0 mm
Shock resistance	Operating extremes	10G
	Damage limits	100G
Life expectancy	Mechanical	1,000,000 ops. (frequency 12,000 ops./hr)
Operating ambient temperature	-40~+85°C (no freezing)	
Weight	Approx.22 g	

- Notes : (1) Initial value. Operate and release time excluding contact bounce.  
 (2) Unless otherwise specified, all tests are under room temperature and humidity.  
 (3) Consider the heat of PCB is necessary, please check the actual condition of PCB.  
 (4) Applying no diode to this relay. The life expectancy will be lower when a diode is used. To use a varistor (ZNR) could absorb the coil surge of relay that is recommended.  
 (5) Do not use the relay exceeding the coil rating, contact rating and life expectancy, or this may cause the risk of overheating.  
 (6) To assure optimum performance, avoid the relay from dropping, hitting, or other unnecessary shocks.  
 (7) Do not switch the contacts without any load as the contact resistance may become increased rapidly.  
 (8) Please contact Song Chuan for the detailed information.

### »» Insulation Data

Insulation resistance <sup>(1)</sup>	1000MΩ Min. (DC 500V)	
Dielectric strength <sup>(1)</sup>	Between open contact	: AC 2000V, 50/60Hz 1 min.
	Between contact and coil	: AC 4500V, 50/60Hz 1 min.
Insulation of IEC 61810-1		
Clearance / creepage distances	Between coil to contact	: Double, Reinforce ≥3mm / ≥5mm
	Between open contact	: Basic, ≥1.5mm / ≥2.5mm
Rated insulation voltage	250V	
Rated impulse withstand voltage	2500V	
Pollution degree	2	
Rated voltage	230 / 400V	
Overvoltage category	II	
Compliant with European photovoltaic standard		
Contact gap	1.5mm Min. (VDE 0126)	
	1.85mm Min. (IEC 62109-1 and VDE 0126)	

Notes : (1) Initial value.

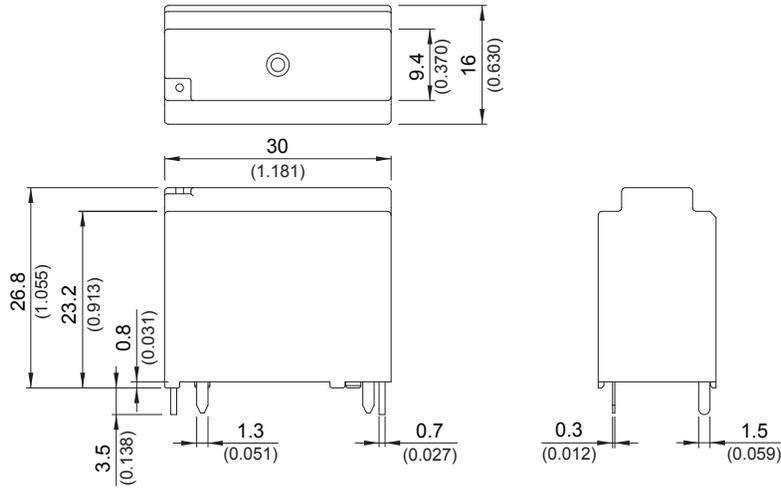
### »» Safety Approval

Certified	UL / CUL	TUV
File No.	E88991	R50003966

### »» Safety Approval Rating

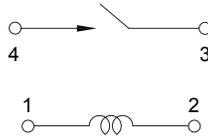
UL / CUL	TUV
26A 277VAC	26A 250VAC 31A 250VAC, AC-7a (for contact gap 1.5mm)

## »» Outline Dimensions



TOLERANCE:  
 LESS THAN: 1(0.039) ±0.1(0.004)  
 5(0.197) ±0.3(0.012)  
 20(0.787) ±0.5(0.020)  
 MORE THAN: 20(0.787) ±1(0.039)

## »» Wiring Diagram (Bottom view)



## »» PC Board Layout (Bottom view)

