



»» Features 特点

- High duty relay with 26A 277VAC.
26A 277VAC大功率继电器。
- UL/CUL, TUV safety approved.
UL/CUL、TUV安规认证。
- Contact gap can be greater than 1.5mm & 1.85mm.
触点间距1.5mm、1.85mm。
- Conforms to European photovoltaic standard IEC 62109-1.
符合欧洲光伏标准IEC 62109-1。
- Coil holding voltage can be reduced to 50~55% V of the nominal coil voltage for saving energy.
线圈保持电压可降至线圈额定电压的50~55% V，以达节能功效。
- High performance PCB power relay for photovoltaic power generation systems (solar inverter).
高性能功率继电器，可用于光伏系统(太阳能逆变器)。
- Complies with RoHS-Directive 2011/65/EU.
符合RoHS 2011/65/EU指令。

»» Type List 型号列表

Terminal style 引出端形状	Contact form 触点形状	Insulation system UL 绝缘等级	Designation (provided with) 分类名称
			Flux tight 防助焊剂型
PCB terminal PCB 用引出端	1A (SPNO)	F	310P-1A-F-C
			310P-1A1-F-C

»» Ordering Information 型号命名

310	P	-	1A	<input type="checkbox"/>	-	F	-	C	<input type="checkbox"/>	
1	2		3	4		5		6	7	
1. 310	-- Basic series designation 基本型号					5. F	-- Class F F级绝缘			
2. P	-- PCB terminal PCB用引出端					6. C	-- Flux tight 防助焊剂型			
3. 1A	-- Single pole normally open 一组常开触点					7. <input type="checkbox"/>	-- Coil voltage (please refer to the coil rating data for the availability) 线圈电压(请参考线圈参数)			
4. Blank 空白	-- Contact gap ≥1.5mm 触点间距 ≥1.5mm									
1	-- Contact gap ≥1.85mm 触点间距 ≥1.85mm									

»» Contact Rating 触点额定负载

Resistive load 阻性负载	26A 240VAC, On 1s /Off 9s, at 85°C, 30K ops.
------------------------	--

»» Coil Rating 线圈参数 (DC)

Rated voltage 额定电压 (V)	Rated current 额定电流 ±10 % at 23°C (mA)	Coil resistance 线圈电阻 ±10 % at 23°C (Ω)	Pick up voltage (Max.) 吸合电压 (最大值) at 23°C ⁽¹⁾	Drop out voltage (Min.) 释放电压 (最小值) at 23°C	Continuous voltage 持续电压 at 85°C ⁽²⁾	Power consumption at rated / holding voltage 额定/保持电压 功耗
12	125	96	75 % of rated voltage 额定电压 的75%	10 % of rated voltage 额定电压 的10%	50~55 % of rated voltage 额定电压的 50~55%	approx. 约 1.5W / 0.45W ⁽²⁾
24	62.5	384				

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

继电器施加全额线圈电压的100%~120%维持200毫秒。

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

线圈保持电压是全额线圈电压维持200毫秒后，降至全额线圈电压的50~55%。

»» Specification 技术参数

Contact material 触点材料	Ag alloy 银合金	
Contact resistance ⁽¹⁾ 接触电阻 ⁽¹⁾	100mΩ Max. (at 1A/6VDC by 4-wire resistance measurement 四端法) 6 mΩ Max. (By voltage drop 10A) (以10A压降法)	
Operate time ⁽¹⁾ 吸合时间 ⁽¹⁾	20ms Max.	
Release time ⁽¹⁾ 释放时间 ⁽¹⁾	10ms Max.	
Vibration resistance 振动	Operating extremes 稳定工作	10~55Hz, amplitude 振幅 1.5 mm
	Damage limits 损坏极限	10~55Hz, amplitude 振幅 2.0 mm
Shock resistance 冲击	Operating extremes 稳定工作	10G
	Damage limits 损坏极限	100G
Life expectancy 预期寿命	Mechanical 机械	1,000,000 ops. (frequency 动作频率 12,000 ops./hr)
Operating ambient temperature 工作环境温度	-40~+85°C (no freezing 不结冰)	
Weight 重量	Approx. 约22 g	

Notes : (1) Initial value. Operate and release time excluding contact bounce.

初始值。吸合/释放时间不包含触点弹跳时间。

(2) All tests are conducted under room temperature and room humidity.

所有测试皆在常温常湿下执行。

(3) Consider the heat of PCB is necessary, please check the actual condition of PCB.

必须考虑PC板温度，请检查实际PC板条件状态。

(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.

禁用二极管。若使用二极管会缩短预期寿命。建议使用突波吸收器(ZNR)来吸收继电器的线圈脉冲。

(5) Do not use the relay exceeding the coil rating, contact rating and life expectancy, or this may cause the risk of overheating.

使用继电器请勿超过线圈规格负载、触点额定负载和预期寿命，否则可能会造成过热的风险。

(6) To assure optimum performance, avoid the relay from dropping, hitting, or other unnecessary shocks.

为保障继电器的理想性能，请避免继电器遭受摔落、碰撞，以及不必要的冲击。

(7) Do not switch the contacts without any load as the contact resistance may become increased rapidly.

请勿在无通负载下开闭触点，以免接触阻抗快速增加。

(8) Please contact Song Chuan for the detailed information.

详细内容请与松川公司联系。

»» Insulation Data 绝缘参数

Insulation resistance ⁽¹⁾ 绝缘电阻 ⁽¹⁾	100MΩ Min. (DC 500V)	
Dielectric strength ⁽¹⁾ 介质耐压 ⁽¹⁾	Between open contact 开路触点间	: AC 2000V, 50/60Hz 1 min.
	Between contact and coil 触点线圈间	: AC 4500V, 50/60Hz 1 min.
Insulation of IEC 61810-1 / IEC 61810-1 绝缘		
Clearance / creepage distances 空间/爬面距离	Between coil to contact 触点线圈间	: Double 双倍, Reinforce 加强 ≥3mm / ≥5mm
	Between open contact 开路触点间	: Basic 基本, ≥1.5mm / ≥2.5mm
Rated insulation voltage 额定绝缘电压	250V	
Rated impulse withstand voltage 额定脉冲耐受电压	2500V	
Pollution degree 污染等级	2	
Rated voltage 额定电压	230 / 400V	
Overvoltage category 过电压类别	II	
Compliant with European photovoltaic standard / 符合欧洲光伏标准		
Contact gap 触点间距	1.5mm (VDE 0126)	
	1.85mm (IEC 62109-1 and VDE 0126)	

Notes : (1) Initial value.
初始值。

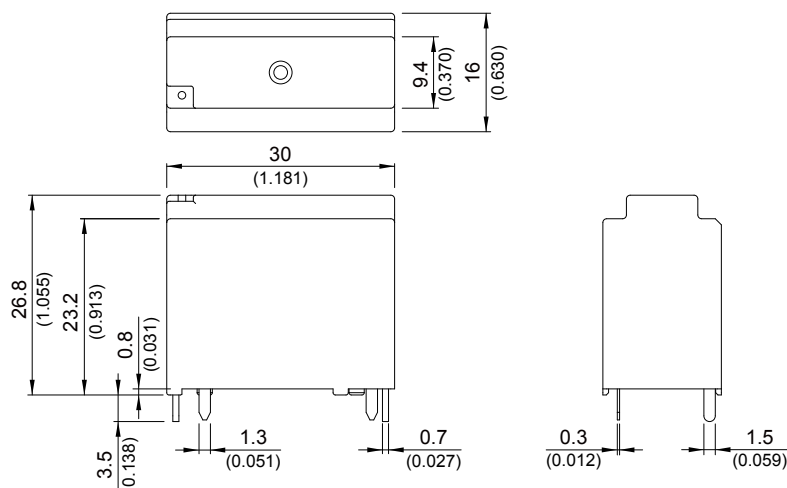
»» Safety Approval 安规认证

Certified 认证	UL / CUL	TUV
File No. 认证编号	E88991	R50003966

»» Safety Approval Rating 安规认证负载

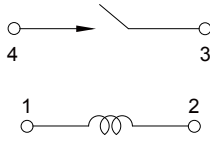
UL / CUL	TUV
26A 277VAC	26A 250VAC 31A 250VAC, AC-7a (for contact gap 1.5mm)

»» Outline Dimensions 外形尺寸

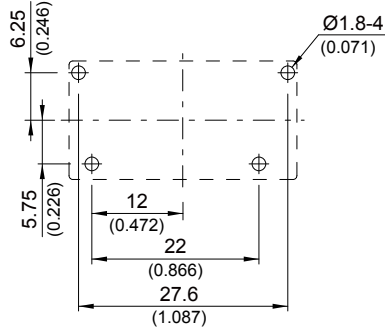


TOLERANCE 公差:
 LESS THAN 小于: 1(0.039) ±0.1(0.004)
 5(0.197) ±0.3(0.012)
 20(0.787) ±0.5(0.020)
 MORE THAN 大于: 20(0.787) ±1(0.039)

»» Wiring Diagram 接线图
(Bottom view 底视)



»» PC Board Layout PC板开孔图
(Bottom view 底视)



All specifications subject to change without notice. This specification is for reference only; and further, the user should be in a right position to choose the suitable product for their own application. Please contact Song Chuan for the technical service.

规格变更不另行通知。本产品规格书仅提供客户参考，具体选型应依客户使用条件选择与其相匹配的产品，请联系松川以便获取更多技术支持。