



saipwell
斯普威尔

Products Manual

Photovoltaic Products 光伏产品选型手册

光伏产品选型手册
Photovoltaic products Products Manual

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北京·上海·广州·温州·烟台·丽水

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Deliver happiness to everyone



To create products
that deliver happiness to everyone

—— 铸造充满幸福的产品 ——

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关于斯普威尔

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Us.

斯普威尔电气是赛普电气集团旗下的电气公司，是全球箱体领域的引领者。主要业务涉及电气机柜、IT机柜、成套电器和新能源产品等核心领域。自2006年成立以来，一直助力产品的提质升级，传递安全、智能和幸福的价值理念。

斯普威尔电气引进国外资深管理与经验丰富的专业人事，以严谨的管理、有创意的研发团队、先进的营销理念，在传统产品的基础上创造和发展了更具前沿感、设计感和良好性价比的产品。

斯普威尔电气设有3大直销公司，分别在上海宝山、广州增城、温州瓯江口；4大生产基地，分布在浙江温州、浙江乐清、浙江丽水、山东烟台；并拥有超过100家的代理和遍布全球的销售网络。

提供产品，更提供智慧。斯普威尔与多家国际化公司建立了良好的长期合作伙伴关系，并一如既往地坚持“合作发展，共同提高”的服务宗旨，以真诚的合作态度来最大程度地满足客户的需求，助力电气行业实现可持续发展的期望，确立全球市场的领先地位。

Saipwell Electricity is a subsidiary of Saip Electric Group and is a leader in the global enclosure market. Its main business involves the manufacturing of electrical and IT enclosures, assembly of whole electrical switchgear systems and development of enclosures for use in new energy solutions. Since our company's inception in 2006, we have been improving and upgrading the quality of our products as we work towards our goal of delivering happiness to our customers through their use of our safe and intelligent products.

Saipwell Electricity has been actively recruiting employees with management experience in both local and foreign companies. With this wealth of experience, creative marketing strategies and innovative R&D, we strive to create and develop more cutting-edge, cost-effective and well-designed products than their predecessors.

Saipwell Electricity has 3 authorized distributors in Baoshan (Shanghai), Zengcheng (Guangzhou), Oujiangkou (Wenzhou) and a total of 4 production sites in Wenzhou (Zhejiang), Yueqing (Zhejiang), Lishui (Zhejiang), Yantai (Shandong). We also have a global sales network of more than 100 agents supporting our customers worldwide.

We provide not just products, but also solutions to our customers. Saipwell has established good long-term partnerships with many international companies over the years. Together with our partners, we aim to achieve our mission of collective development and improvement by adopting a sincere attitude in meeting the needs of our customers; and in the process play a role in helping the Chinese electrical industry establish sustainable development and a leading position in the global electrical market.



BRAND STORY.

品牌故事

SAIPWELL ELEC.

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斯普威尔logo形似一只可爱灵动的海豚，用它的灵性与友好向世人传递着美好、快乐与幸福。

早在古希腊人们就很喜欢海豚，他们认为看到海豚在船周围的波浪中是一个好兆头。传说阿里翁曾被所乘船上的水手抢劫，被迫跳海，一只海豚被他的歌声打动，因而把他救上岸。直至今日，海豚这种大海里的精灵仍然深受全世界人民的喜爱，一直在人类文化中扮演着重要的角色。斯普威尔也有着海豚般的聪慧与友爱，在您最需要我们的时候为您提供最大的支持，用我们的灵感和智慧，用最靠谱的性格，成为您最真诚的伙伴。

The inspiration of our logo came from the cute-looking dolphin and its spirit of friendliness and ability to bring happiness to everyone around it.

Since ancient Greek times, dolphins are well-loved animals and it is thought to be a good sign if one sees them in the waves or waters. Legend has it that Arion was robbed by sailors in his boat and forced to jump into the sea. Moved by his singing, a dolphin rescued him to shore. Today, dolphins, the spirits of the sea, are loved by people all over the world and play an important role in human culture. Saipwell too, with a dolphin-like intelligence and friendship will provide you with the greatest support when you need it. Using our inspiration and knowledge, we hope to become your most reliable and sincere partner.

VISION.

公司愿景

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“创领未来箱体”。这一公司愿景恰恰反映了我们希望为世界带来积极的影响。斯普威尔拥有强大的研发设计能力，目前已拥有20余项箱体专利技术和著作权。最新落成的温州生产基地采用柔性钣金生产线（FMS），箱体的生产实现了自动上下料、自动切割、自动冲剪、机器人折弯、机器人焊接、交互式PU发泡和理光UV彩色打印。

专注研发生产和科技投入，这是斯普威尔扎根行业发展恒久不变的基调，未来的每一步成长，我们都愿意与您共同参与，相濡以沫，携手并进。

Creating Enclosures of the Future. This enterprise vision reflects our desire to make a positive impact on the world. Saipwell has strong R&D and design capabilities and currently has more than 20 enclosure design trademarks and technology patents. Our newly completed Wenzhou production base is fitted with an automated flexible sheet metal production line (FMS). Through automatic loading and unloading, automatic punching and cutting, robot bending, robot welding, interactive PU foaming and Ricoh UV color printing, product precision and costs efficiencies are achieved.

A focus on R&D and technological investments will continue to be cornerstones of Saipwell's development. We look forward to you participating in every step of our growth and making progress together, hand in hand.

铸造充满幸福的产品

To create products that deliver happiness to everyone



商业原则
BUSINESS
PRINCIPLE

做简单的生意 简单地做生意
To conduct business in a simple
Straightforward manner

企业精神
CORPORATE
SPIRIT

耐心 细心
Patience Dedication

Concept.

经营理念 

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happiness to everyone

人生观
HUMAN
PRINCIPLE

客户至上 员工第一
Customers are our topmost priority,
followed by our employees

工作观
WORKING
PRINCIPLE

快乐工作 幸福生活
To work and live happily

产品观
PRODUCT
PRINCIPLE

文化电气/幸福电气/品质电气/信息电气/便捷电气
To manufacture quality, innovative products that bring
convenience to its users

Value

价值观

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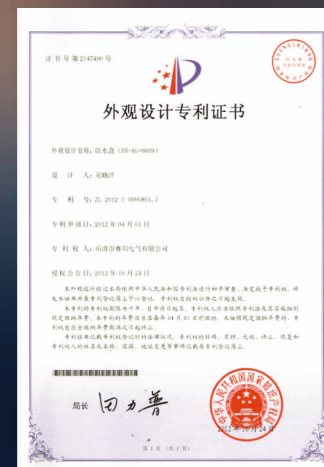
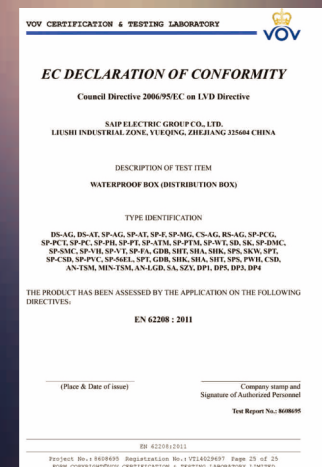
- 平等——人人平等
 - 拼搏——全力以赴，付出不亚于任何人的努力
 - 创新——思想创新、产品创新、管理创新
 - 信任——相信别人并敢于托付
 - 感恩——活着就要感谢
 - 利他——积善行，思利他
- Equality – Everyone is equal
- Fighting Spirit – Putting in the best effort in everything
- Innovation – Innovative & creative product development and managment
- Trust – To trust and be trusted
- Gratitude – Be grateful and appreciative
- Altruism – Do good deeds and be considerate of others

Honor

斯普威尔的证书

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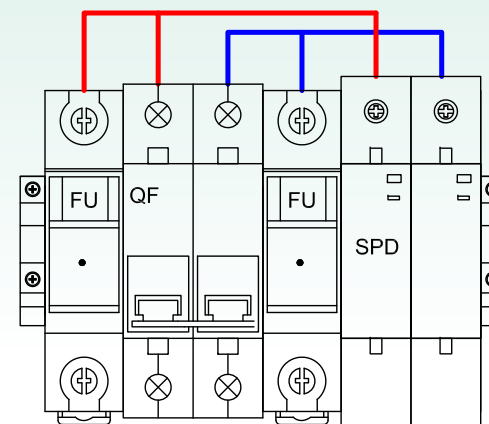


型号 Model

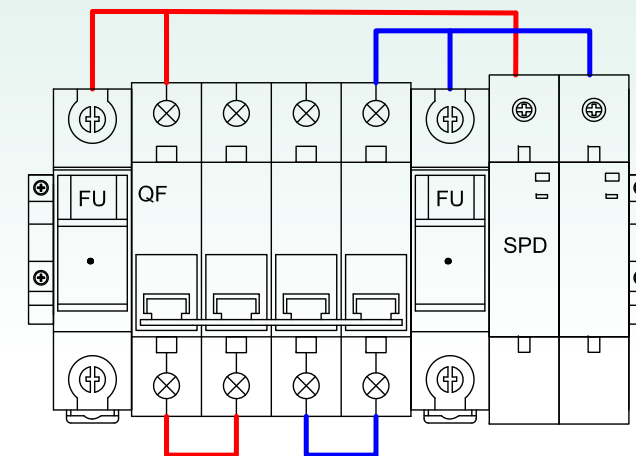
SP-HA-PV/1-1

产品特点 Features of Products

- 高可靠性
带直流保险丝，具有直流浪涌保护装置，配有直流断路器或直流负载隔离开关。
- 适应性强
IP65 防水防尘设计，同时抗紫外线。严格高低温测试，用途广泛。安装简单、系统接线简化、接线方便。箱体采用ABS，PC，冷轧钢板，不锈钢等材料制成。
- 配置灵活
用于单晶硅太阳能电池组件、多晶硅太阳能电池组件，薄膜太阳能组件。光伏熔断器，断路器和隔离开关可以根据使用要求更换相对于的额定电流规格。
- High reliability
With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
- Strong adaptability
IP65 Waterproof, dust-proof and UV-resistant.
Strict test for high and low temperature, used widely.
Simple installation, simplified system wiring and convenient wiring. The enclosure is made of ABS, PC, cold-roll steel sheets, stainless steel or the other materials.
- Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules. The specification of DC Circuit breaker, Photovoltaic fuse, and isolator switch can be change as the request.



DC550V



DC1000V

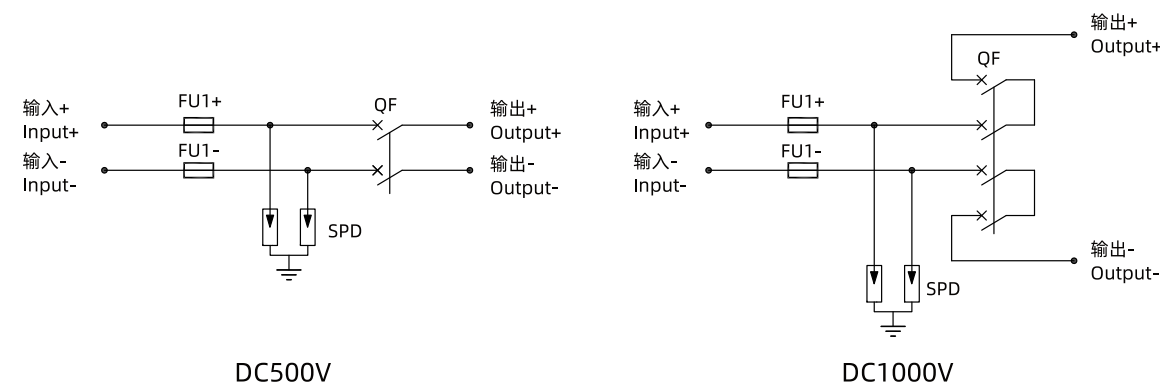
产品概述 Product Overview

SP-HA-PV/1-1汇流箱适用于逆变器（最大输入电压DC550V/DC1000V，1路PV输入，1路输出，单路MPPT逆变器）。箱体采用PVC工程材料，经过阻燃、温升、抗冲击、抗紫外线等测试。IP65防护等级。严格按照《光伏结点设备技术规范》CG/GF 037:2014进行设计和配置。为用户提供安全、简洁、美观、适用的光伏系统产品。

SP-HA-PV/1-1 combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 1 PV input channel, 1 output channel, single MPPT inverter).The box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet, and other testing. IP65 protection grade.

The design and configuration is strictly in accordance with the "Technical specification for photovoltaic junction equipment " CG/GF 037:2014. Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

接线示意图 Schematic Diagram

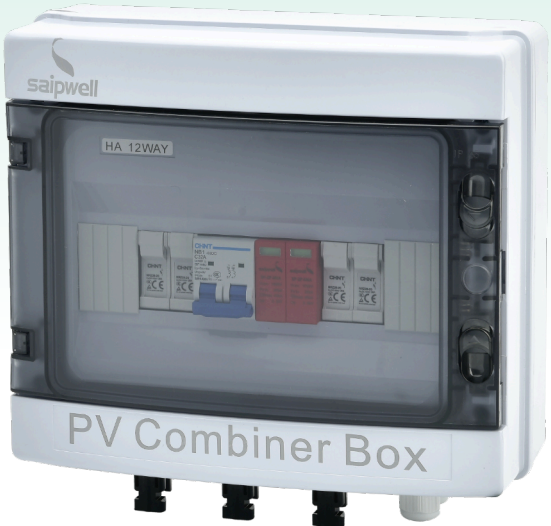


DC550V

DC1000V

规格参数 Specification

SP-HA-PV/1-1		
电气参数 Electric parameter		
系统最大直流电压 System maximum dc voltage	550	1000
每串最大输入电流 Maximum input current for each string	15A	
最大输入字符串 Maximum input strings	1	
最大输出开关电流 Maximum output switch current	16A/20A	
逆变器MPPT数量 Number of inverter MPPT	1	
输出串数 Number of Output strings	1	
防雷保护 Lightning protection		
测试类别 Category of test	II级防护 II grade protection	
标称放电电流 Nominal discharge current	20kA	
最大放电电流 Maximum discharge current	40kA	
电压保护等级 Voltage protection level	2.8kV	3.8kV
最大连续工作电压Uc Maximum continuous operating voltage Uc	630V	1050V
极数 Poles	2P	3P
结构特点 Structure characteristic	即插即用模块 Plug-push module	
系统 System		
防护等级 Protection grade	IP65	
输出开关 Output Switch	直流隔离开关（标配）/直流断路器（选配） DC isolation switch(standard)/DC circuit breaker(optional)	
MC4R 防水连接器 MC4R Waterproof Connectors	标准 Standard	
光伏熔断器 PV DC fuse	标准 Standard	
光伏浪涌保护器 PV surge protector	标准 Standard	
监控模块 Monitoring module	可选 Optional	
防止二极管 Preventing diode	可选 Optional	
箱体材质 Box material	PVC	
安装方法 Installation method	壁挂式 Wall mounting type	
工作温度 Operating Temperature	- 25℃ ~ + 55℃	
温度升高 Elevation of temperature	2km	
允许相对湿度 Permissible relative humidity	0-95% 无凝结 0-95% no condensation	
机械参数 Mechanical parameter		
宽×高×深（mm） Width × High x Depth （mm）	300 x 260 x 140	



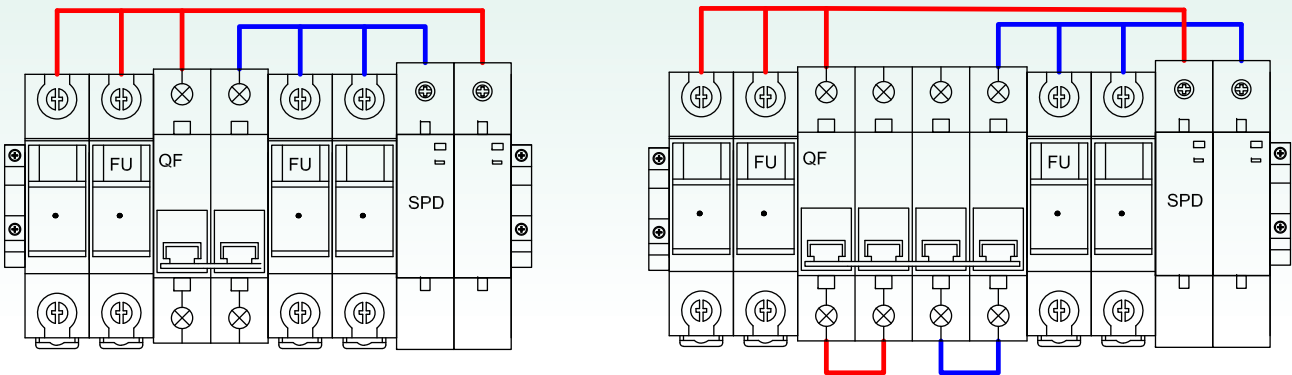
型号 Model
SP-HA-PV/2-1

产品特点 Features of Products

- 高可靠性
带直流保险丝，具有直流浪涌保护装置，配有直流断路器或直流负载隔离开关。
 - 适应性强
IP65 防水防尘设计，同时抗紫外线。严格高低温测试，用途广泛。安装简单、系统接线简化、接线方便。箱体采用ABS，PC，冷轧钢板，不锈钢等材料制成。
 - 配置灵活
用于单晶硅太阳能电池组件、多晶硅太阳能电池组件，薄膜太阳能组件。光伏熔断器，断路器和隔离开关可以根据使用要求更换相对于的额定电流规格。
- High reliability
With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
 - Strong adaptability
IP65 Waterproof, dust-proof and UV-resistant. Strict test for high and low temperature, used widely. Simple installation, simplified system wiring and convenient wiring. The enclosure is made of ABS, PC, cold-roll steel sheets, stainless steel or the other materials.
 - Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules. The specification of DC Circuit breaker, Photovoltaic fuse, and isolator switch can be change as the request.

规格参数 Specification

SP-HA-PV/2-1		
电气参数 Electric parameter		
系统最大直流电压 System maximum dc voltage	550	1000
每串最大输入电流 Maximum input current for each string	15A	
最大输入字符串 Maximum input strings	2	
最大输出开关电流 Maximum output switch current	20A/32A	
逆变器MPPT数量 Number of inverter MPPT	1	
输出串数 Number of Output strings	1	
防雷保护 Lightning protection		
测试类别 Category of test	II级防护 II grade protection	
标称放电电流 Nominal discharge current	20kA	
最大放电电流 Maximum discharge current	40kA	
电压保护等级 Voltage protection level	2.8kV	3.8kV
最大连续工作电压Uc Maximum continuous operating voltage Uc	630V	1050V
极数 Poles	2P	3P
结构特点 Structure characteristic	即插即用模块 Plug-push module	
系统 System		
防护等级 Protection grade	IP65	
输出开关 Output Switch	直流隔离开关（标配）/直流断路器（选配） DC isolation switch(standard)/DC circuit breaker(optional)	
MC4R 防水连接器 MC4R Waterproof Connectors	标准 Standard	
光伏熔断器 PV DC fuse	标准 Standard	
光伏浪涌保护器 PV surge protector	标准 Standard	
监控模块 Monitoring module	可选 Optional	
防止二极管 Preventing diode	可选 Optional	
箱体材质 Box material	PVC	
安装方法 Installation method	壁挂式 Wall mounting type	
工作温度 Operating Temperature	- 25℃ ~ + 55℃	
温度升高 Elevation of temperature	2km	
允许相对湿度 Permissible relative humidity	0-95% 无凝结 0-95% no condensation	
机械参数 Mechanical parameter		
宽×高×深（mm） Width × High x Depth （mm）	300 x 260 x 140	



DC550V

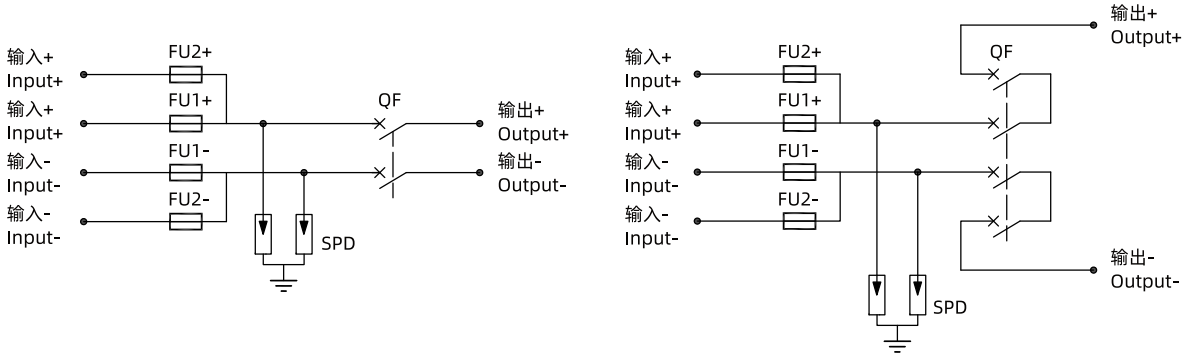
DC1000V

产品概述 Product Overview

SP-HA-PV/2-1汇流箱适用于逆变器（最大输入电压DC550V/DC1000V，2路PV输入，1路输出，单路MPPT逆变器）。箱体采用PVC工程材料，经过阻燃、温升、抗冲击、抗紫外线等测试。IP65防护等级。严格按照《光伏结点设备技术规范》CG/GF 037:2014进行设计和配置。为用户提供安全、简洁、美观、适用的光伏系统产品。

SP-HA-PV/2-1 combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 2 PV input channel, 1 output channel, single MPPT inverter).The box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet, and other testing. IP65 protection grade. The design and configuration is strictly in accordance with the "Technical specification for photovoltaic junction equipment " CG/GF 037:2014. Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

接线示意图 Schematic Diagram



DC550V

DC1000V

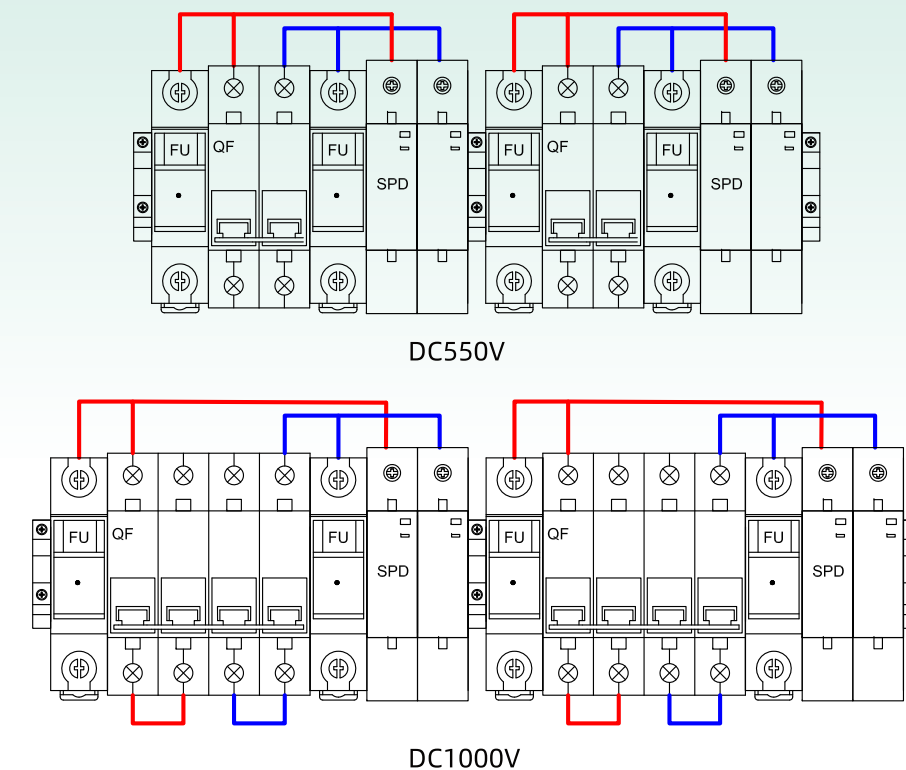


型号 Model

SP-HA-PV/2-2

产品特点 Features of Products

- 高可靠性
带直流保险丝，具有直流浪涌保护装置，
配有直流断路器或直流负载隔离开关。
- 适应性强
IP65 防水防尘设计，同时抗紫外线。
严格高低温测试，用途广泛。安装简单、系统接线简化、接线方便。箱体采用ABS，PC，冷轧钢板，不锈钢等材料制成。
- 配置灵活
用于单晶硅太阳能电池组件、多晶硅太阳能电池组件，薄膜太阳能组件。光伏熔断器，断路器和隔离开关可以根据使用要求更换相对于的额定电流规格。
- High reliability
With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
- Strong adaptability
IP65 Waterproof, dust-proof and UV-resistant.
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- Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules. The specification of DC Circuit breaker, Photovoltaic fuse, and isolator switch can be change as the request.

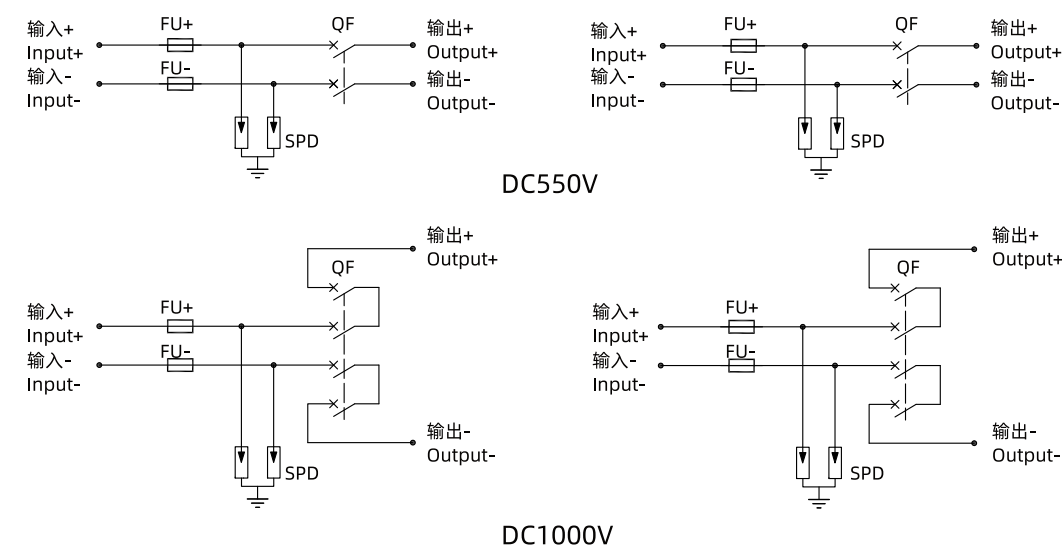


产品概述 Product Overview

SP-HA-PV/2-2汇流箱适用于逆变器（最大输入电压DC550V/DC1000V，2路PV输入，2路输出，单路MPPT逆变器）。箱体采用PVC工程材料，经过阻燃、温升、抗冲击、抗紫外线等测试。IP65防护等级。严格按照《光伏结点设备技术规范》CG/GF 037:2014进行设计和配置。为用户提供安全、简洁、美观、适用的光伏系统产品。

SP-HA-PV/2-2 combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 2 PV input channel, 2output channel, single MPPT inverter).The box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet, and other testing. IP65 protection grade.
The design and configuration is strictly in accordance with the "Technical specification for photovoltaic junction equipment " CG/GF 037:2014. Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

接线示意图 Schematic Diagram



规格参数 Specification

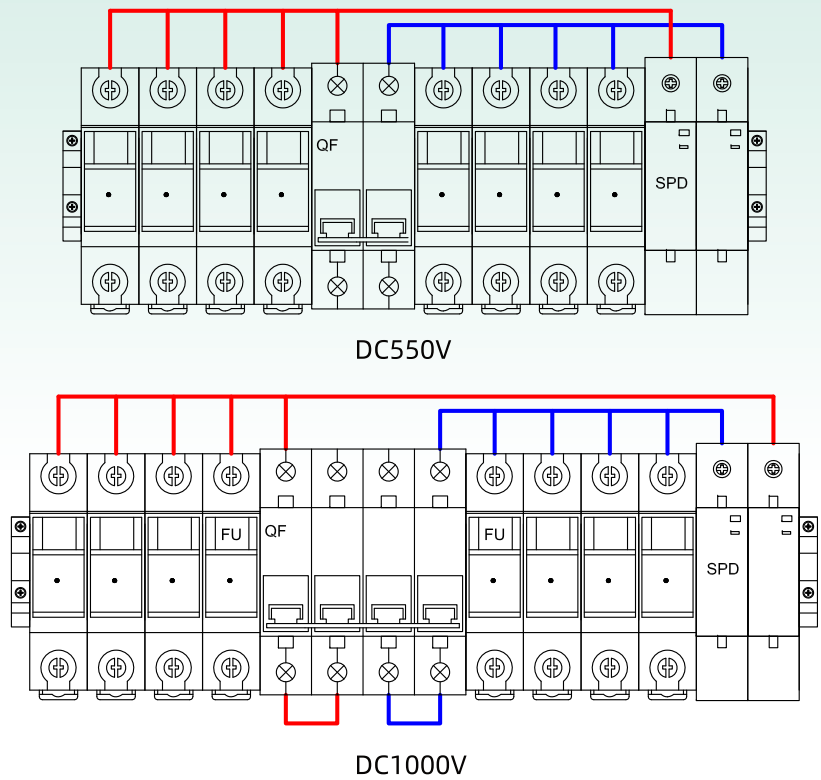
SP-HA-PV/2-2		
电气参数 Electric parameter		
系统最大直流电压 System maximum dc voltage	550	1000
每串最大输入电流 Maximum input current for each string	15A	
最大输入字符串 Maximum input strings	2	
最大输出开关电流 Maximum output switch current	16A/20A	
逆变器MPPT数量 Number of inverter MPPT	2	
输出串数 Number of Output strings	2	
防雷保护 Lightning protection		
测试类别 Category of test	II级防护 II grade protection	
标称放电电流 Nominal discharge current	20kA	
最大放电电流 Maximum discharge current	40kA	
电压保护等级 Voltage protection level	2.8kV	3.8kV
最大连续工作电压Uc Maximum continuous operating voltage Uc	630V	1050V
极数 Poles	2P	3P
结构特点 Structure characteristic	即插即用模块 Plug-push module	
系统 System		
防护等级 Protection grade	IP65	
输出开关 Output Switch	直流隔离开关（标配）/直流断路器（选配） DC isolation switch(standard)/DC circuit breaker(optional)	
MC4R 防水连接器 MC4R Waterproof Connectors	标准 Standard	
光伏熔断器 PV DC fuse	标准 Standard	
光伏浪涌保护器 PV surge protector	标准 Standard	
监控模块 Monitoring module	可选 Optional	
防止二极管 Preventing diode	可选 Optional	
箱体材质 Box material	PVC	
安装方法 Installation method	壁挂式 Wall mounting type	
工作温度 Operating Temperature	- 25℃ ~ + 55℃	
温度升高 Elevation of temperature	2km	
允许相对湿度 Permissible relative humidity	0-95% 无凝结 0-95% no condensation	
机械参数 Mechanical parameter		
宽×高×深（mm） Width × High x Depth （mm）	295 x 255 x 130	



型号 Model
SP-HA-PV/4-1

产品特点 Features of Products

- 高可靠性
带直流保险丝，具有直流浪涌保护装置，配有直流断路器或直流负载隔离开关。
 - 适应性强
IP65 防水防尘设计，同时抗紫外线。严格高低温测试，用途广泛。安装简单、系统接线简化、接线方便。箱体采用ABS，PC，冷轧钢板，不锈钢等材料制成。
 - 配置灵活
用于单晶硅太阳能电池组件、多晶硅太阳能电池组件，薄膜太阳能组件。光伏熔断器，断路器和隔离开关可以根据使用要求更换相对于的额定电流规格。
- High reliability
With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
 - Strong adaptability
IP65 Waterproof, dust-proof and UV-resistant. Strict test for high and low temperature, used widely. Simple installation, simplified system wiring and convenient wiring. The enclosure is made of ABS, PC, cold-roll steel sheets, stainless steel or the other materials.
 - Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules. The specification of DC Circuit breaker, Photovoltaic fuse, and isolator switch can be change as the request.

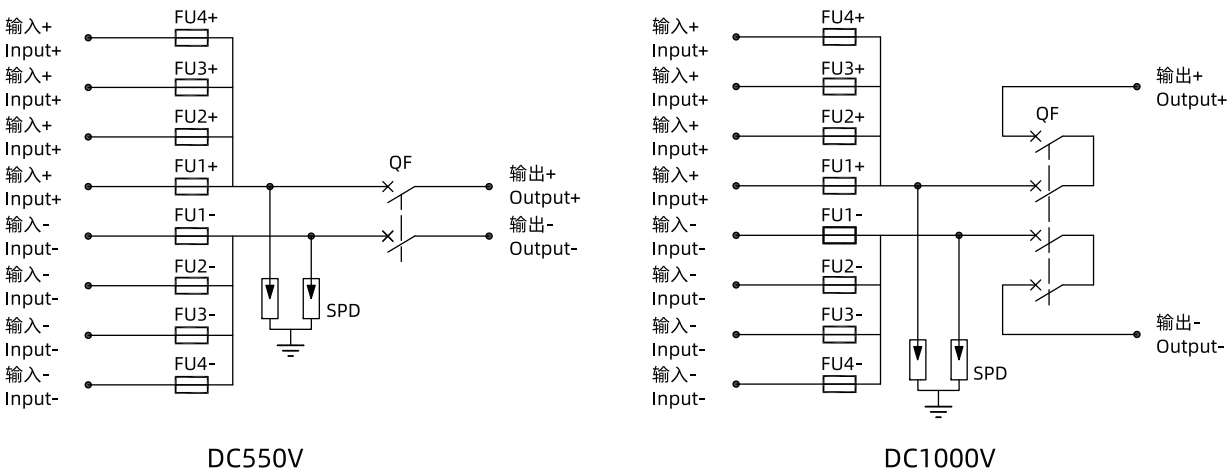


产品概述 Product Overview

SP-HA-PV/4-1 汇流箱适用于逆变器（最大输入电压DC550V/DC1000V，4路PV输入，1路输出，单路MPPT逆变器）。箱体采用PVC工程材料，经过阻燃、温升、抗冲击、抗紫外线等测试。IP65防护等级。严格按照《光伏结点设备技术规范》CG/GF 037:2014进行设计和配置。为用户提供安全、简洁、美观、适用的光伏系统产品。

SP-HA-PV/4-1 combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 4 PV input channel, 1 output channel, single MPPT inverter).The box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet, and other testing. IP65 protection grade. The design and configuration is strictly in accordance with the "Technical specification for photovoltaic junction equipment " CG/GF 037:2014. Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

接线示意图 Schematic Diagram



规格参数 Specification

SP-HA-PV/4-1		
电气参数 Electric parameter		
系统最大直流电压 System maximum dc voltage	550	1000
每串最大输入电流 Maximum input current for each string	15A	
最大输入字符串 Maximum input strings	4	
最大输出开关电流 Maximum output switch current	50A/63A	
逆变器MPPT数量 Number of inverter MPPT	1	
输出串数 Number of Output strings	1	
防雷保护 Lightning protection		
测试类别 Category of test	II级防护 II grade protection	
标称放电电流 Nominal discharge current	20kA	
最大放电电流 Maximum discharge current	40kA	
电压保护等级 Voltage protection level	2.8kV	3.8kV
最大连续工作电压Uc Maximum continuous operating voltage Uc	630V	1050V
极数 Poles	2P	3P
结构特点 Structure characteristic	即插即用模块 Plug-push module	
系统 System		
防护等级 Protection grade	IP65	
输出开关 Output Switch	直流隔离开关（标配）/直流断路器（选配） DC isolation switch(standard)/DC circuit breaker(optional)	
MC4R 防水连接器 MC4R Waterproof Connectors	标准 Standard	
光伏熔断器 PV DC fuse	标准 Standard	
光伏浪涌保护器 PV surge protector	标准 Standard	
监控模块 Monitoring module	可选 Optional	
防止二极管 Preventing diode	可选 Optional	
箱体材质 Box material	PVC	
安装方法 Installation method	壁挂式 Wall mounting type	
工作温度 Operating Temperature	- 25℃ ~ + 55℃	
温度升高 Elevation of temperature	2km	
允许相对湿度 Permissible relative humidity	0-95% 无凝结 0-95% no condensation	
机械参数 Mechanical parameter		
宽×高×深（mm） Width × High x Depth （mm）	410 x 285 x 140	

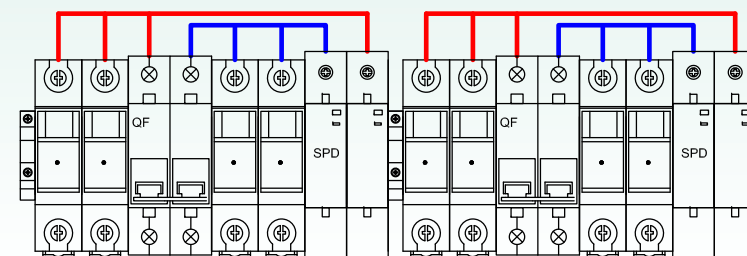


型号 Model

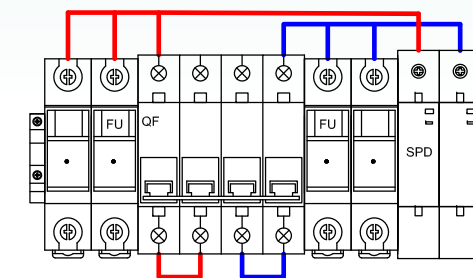
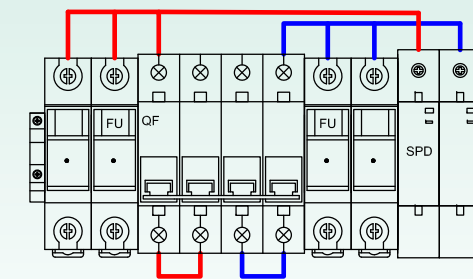
SP-HA-PV/4-2

产品特点 Features of Products

- 高可靠性
带直流保险丝，具有直流浪涌保护装置，
配有直流断路器或直流负载隔离开关。
- 适应性强
IP65 防水防尘设计，同时抗紫外线。
严格高低温测试，用途广泛。安装简单、系统接线简化、接线方便。箱体采用ABS，PC，冷轧钢板，不锈钢等材料制成。
- 配置灵活
用于单晶硅太阳能电池组件、多晶硅太阳能电池组件，薄膜太阳能组件。光伏熔断器，断路器和隔离开关可以根据使用要求更换相对于的额定电流规格。
- High reliability
With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
- Strong adaptability
IP65 Waterproof, dust-proof and UV-resistant.
Strict test for high and low temperature, used widely.
Simple installation, simplified system wiring and convenient wiring. The enclosure is made of ABS, PC, cold-roll steel sheets, stainless steel or the other materials.
- Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules. The specification of DC Circuit breaker, Photovoltaic fuse, and isolator switch can be change as the request.



DC550V



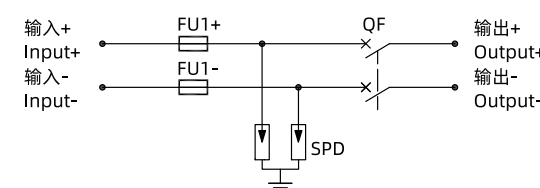
DC1000V

产品概述 Product Overview

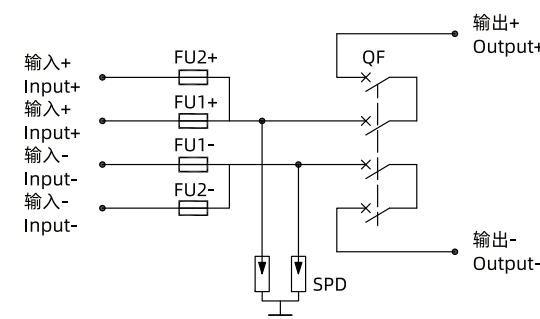
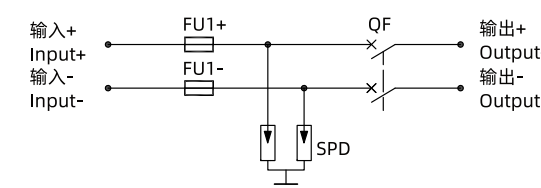
SP-HA-PV/4-2汇流箱适用于逆变器（最大输入电压DC550V/DC1000V，4路PV输入，2路输出，单路MPPT逆变器）。箱体采用PVC工程材料，经过阻燃、温升、抗冲击、抗紫外线等测试。IP65防护等级。严格按照《光伏结点设备技术规范》CG/GF 037:2014进行设计和配置。为用户提供安全、简洁、美观、适用的光伏系统产品。

SP-HA-PV/4-2 combiner box is suitable for inverter (MAX input voltage DC550V/DC1000V, 4 PV input channel, 2output channel, single MPPT inverter).The box body is made of PVC engineering materials, with test for fire retardant, temperature rise, anti impact, anti ultraviolet, and other testing. IP65 protection grade.
The design and configuration is strictly in accordance with the "Technical specification for photovoltaic junction equipment " CG/GF 037:2014. Provide users with a safe, brief, beautiful and applicable photovoltaic system products.

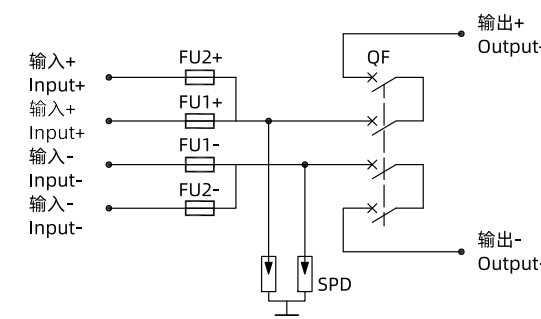
接线示意图 Schematic Diagram



DC550V

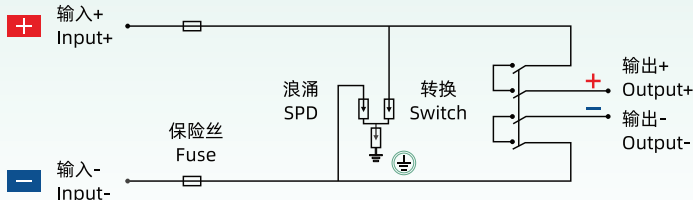
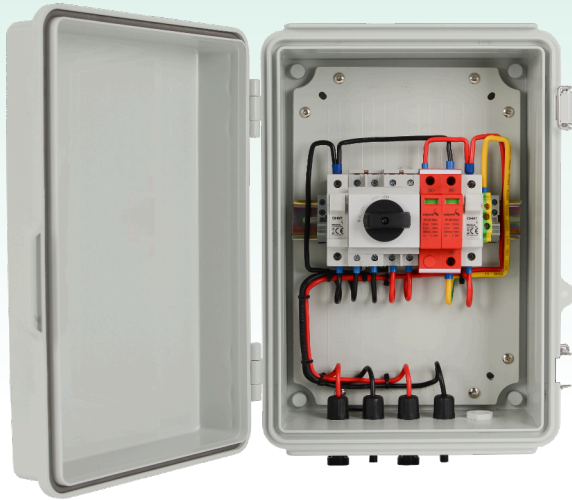


DC1000V



规格参数 Specification

SP-HA-PV/4-2		
电气参数 Electric parameter		
系统最大直流电压 System maximum dc voltage	550	1000
每串最大输入电流 Maximum input current for each string	15A	
最大输入字符串 Maximum input strings	4	
最大输出开关电流 Maximum output switch current	20A/32A	
逆变器MPPT数量 Number of inverter MPPT	2	
输出串数 Number of Output strings	2	
防雷保护 Lightning protection		
测试类别 Category of test	II级防护 II grade protection	
标称放电电流 Nominal discharge current	20kA	
最大放电电流 Maximum discharge current	40kA	
电压保护等级 Voltage protection level	2.8kV	3.8kV
最大连续工作电压Uc Maximum continuous operating voltage Uc	630V	1050V
极数 Poles	2P	3P
结构特点 Structure characteristic	即插即用模块 Plug-push module	
系统 System		
防护等级 Protection grade	IP65	
输出开关 Output Switch	直流隔离开关（标配）/直流断路器（选配） DC isolation switch(standard)/DC circuit breaker(optional)	
MC4R 防水连接器 MC4R Waterproof Connectors	标准 Standard	
光伏熔断器 PV DC fuse	标准 Standard	
光伏浪涌保护器 PV surge protector	标准 Standard	
监控模块 Monitoring module	可选 Optional	
防止二极管 Preventing diode	可选 Optional	
箱体材质 Box material	PVC	
安装方法 Installation method	壁挂式 Wall mounting type	
工作温度 Operating Temperature	- 25℃ ~ + 55℃	
温度升高 Elevation of temperature	2km	
允许相对湿度 Permissible relative humidity	0-95% 无凝结 0-95% no condensation	
机械参数 Mechanical parameter		
宽×高×深（mm） Width × High × Depth （mm）	300 × 415 × 140	

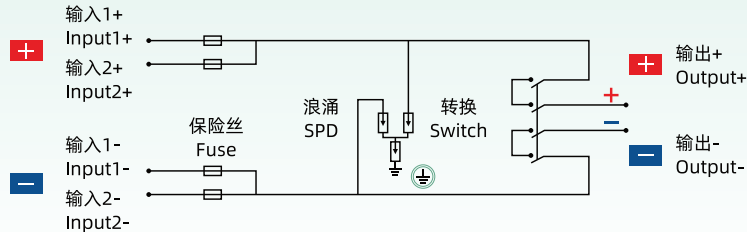


1进1出 直流 1000V

1 IN 1 OUT DC 1000V

规格参数 Specification

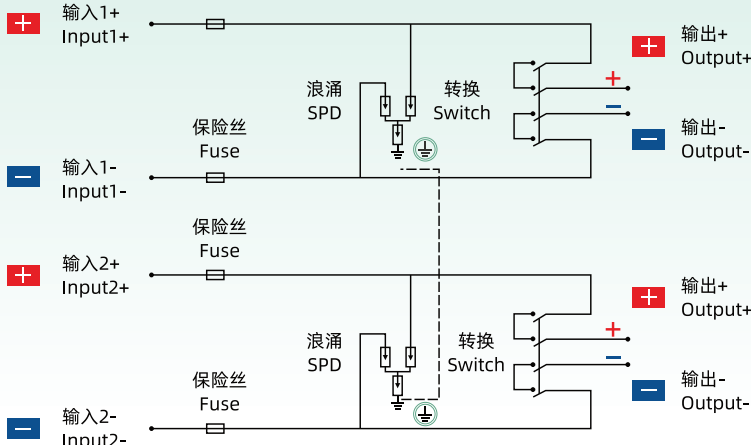
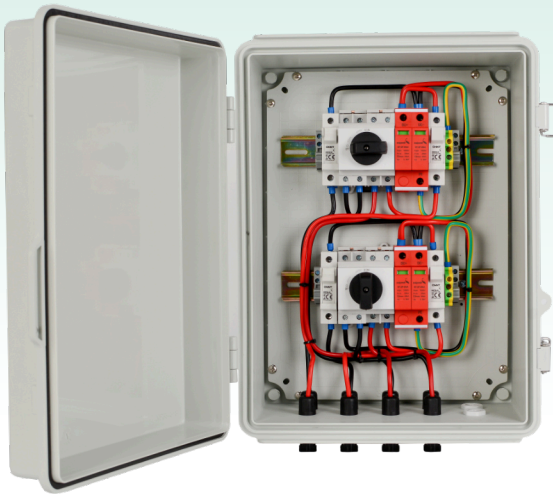
SP-CAG-PV/1-1			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/1-1	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	1 串 1 string	标准 Standard	EN 50539 Type2
输出 Output	1 串 1 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A （可变）(changeable)		
最大电流输出 Maximum Current Output	32A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸（宽×高×深） Dimension (WxHxD)	250 X 350 X 150mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	MC4光伏连接器母头 MC4 Female Connector		
直流隔离开关 DC Switch Disconnecter	SP DS1-DB/S15/4R	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	1000V	工作温度 Operating Temperature	-20℃~+60℃
额定电流 (Ie) Rated Current (Ie)	15A	湿度 Humidity	99%
类别 Category	DC21B/PV2	高度 Altitude	2000M
标准符合 Standard Compliance with	IEC 60947-3	安装 Installation	壁挂式安装 Wall Mounting



2进1出 直流 1000V
2 IN 1 OUT DC 1000V

规格参数 Specification

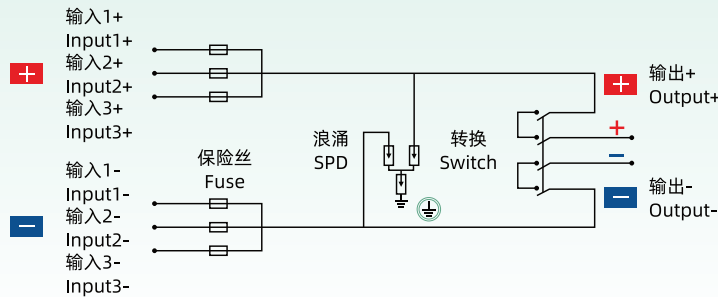
SP-CAG-PV/2-1			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/2-1	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	2 串 2 string	标准 Standard	EN 50539 Type2
输出 Output	1 串 1 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	32A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	250 X 350 X 150mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	MC4光伏连接器母头 MC4 Female Connector		
直流隔离开关 DC Switch Disconnecter	SP DS1-DB/S32/4R	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	1000V	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	32A	湿度 Humidity	99%
类别 Category	DC21B/PV2	高度 Altitude	2000M
标准符合 Standard Compliance with	IEC 60947-3	安装 Installation	壁挂式安装 Wall Mounting



2进2出 直流 1000V
2 IN 2 OUT DC 1000V

规格参数 Specification

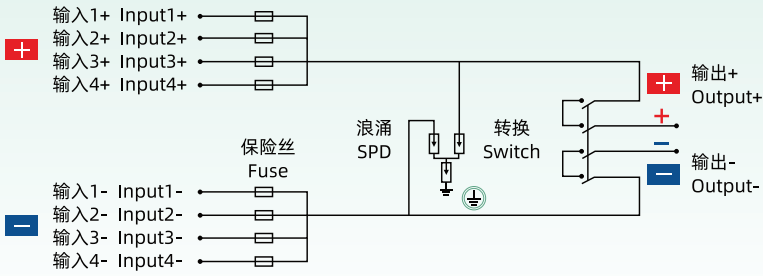
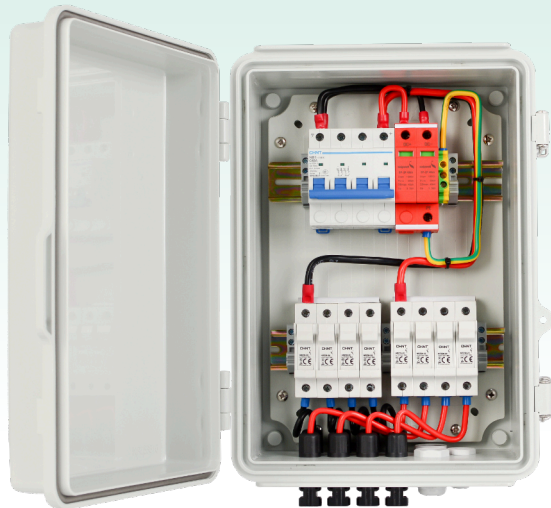
SP-CAG-PV/2-2			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/2-2	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	2 串 2 string	标准 Standard	EN 50539 Type2
输出 Output	2 串 2 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	32A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	330 X 430 X 180mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	MC4光伏连接器母头 MC4 Female Connector		
直流隔离开关 DC Switch Disconnecter	SP DS1-DB/S32/4R	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	1000V	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	15A	湿度 Humidity	99%
类别 Category	DC21B/PV2	高度 Altitude	2000M
标准符合 Standard Compliance with	IEC 60947-3	安装 Installation	壁挂式安装 Wall Mounting



3进1出 直流 1000V
3 IN 1 OUT DC 1000V

规格参数 Specification

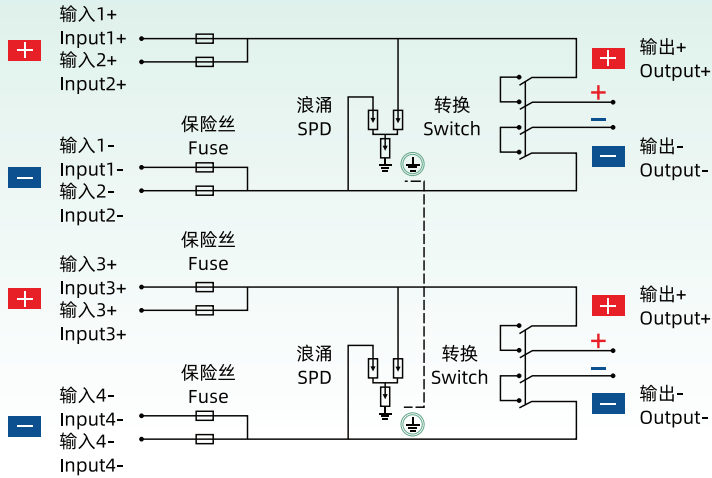
SP-CAG-PV/3-1			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/3-1	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	3 串 3 string	标准 Standard	EN 50539 Type2
输出 Output	1 串 1 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	63A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	250 X 350 X 150mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	PG21 2.5-16mm ²		
直流隔离开关 DC Switch Disconnecter	-	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	-	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	-	湿度 Humidity	99%
类别 Category	-	高度 Altitude	2000M
标准符合 Standard Compliance with	-	安装 Installation	壁挂式安装 Wall Mounting



4进1出 直流 1000V
4 IN 1 OUT DC 1000V

规格参数 Specification

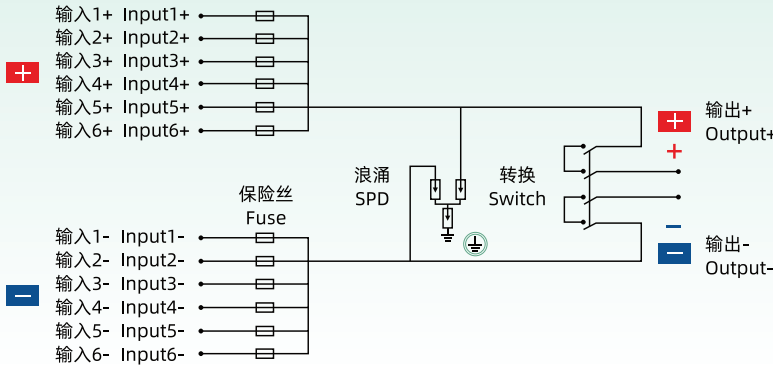
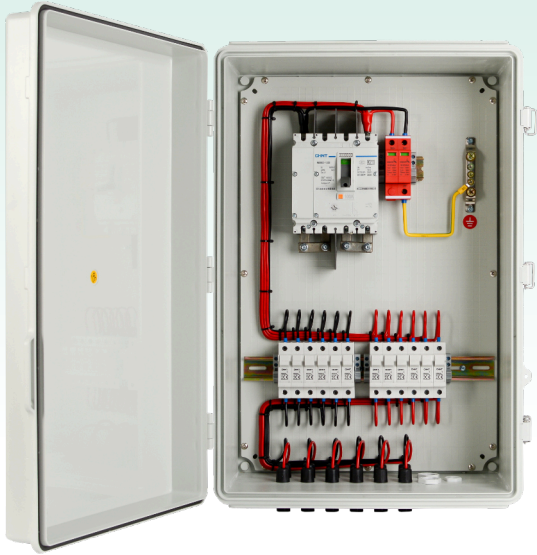
SP-CAG-PV/4-1			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/4-1	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	4 串 4 string	标准 Standard	EN 50539 Type2
输出 Output	1 串 1 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	63A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	292 X 220 X 132mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	PG21 2.5-16mm ²		
直流隔离开关 DC Switch Disconnecter	-	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	-	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	-	湿度 Humidity	99%
类别 Category	-	高度 Altitude	2000M
标准符合 Standard Compliance with	-	安装 Installation	壁挂式安装 Wall Mounting



4进2出 直流 1000V
4 IN 2 OUT DC 1000V

规格参数 Specification

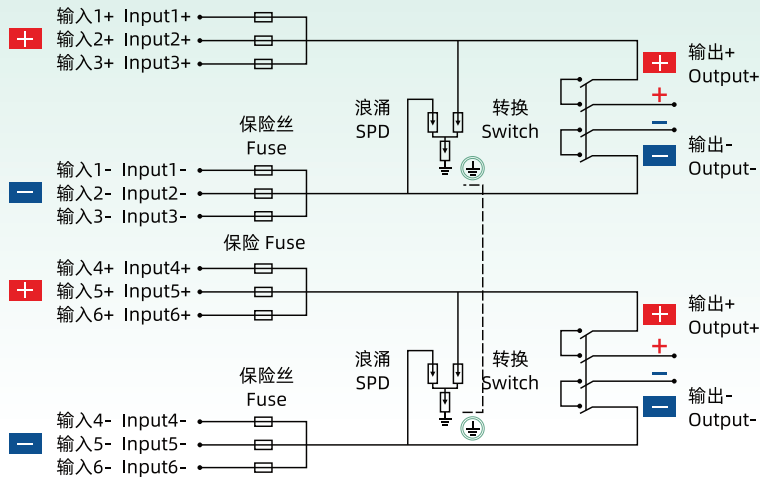
SP-CAG-PV/4-2			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/4-2	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	4 串 4 string	标准 Standard	EN 50539 Type2
输出 Output	2 串 2 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	32A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	330 X 430 X 180mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	PG21 2.5-16mm ²		
直流隔离开关 DC Switch Disconnecter	-	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	-	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	-	湿度 Humidity	99%
类别 Category	-	高度 Altitude	2000M
标准符合 Standard Compliance with	-	安装 Installation	壁挂式安装 Wall Mounting



6进1出 直流 1000V
6 IN 1 OUT DC 1000V

规格参数 Specification

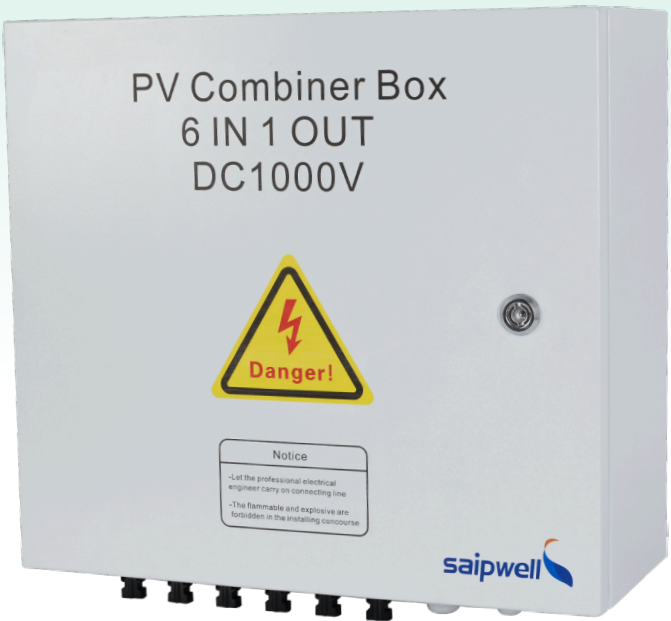
SP-CAG-PV/6-1			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/6-1	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	6 串 6 string	标准 Standard	EN 50539 Type2
输出 Output	1 串 1 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	100A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP66	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	430 X 630 X 180mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	PG36 50-70mm ²		
直流隔离开关 DC Switch Disconnecter	-	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	-	工作温度 Operating Temperature	-20°C~+60°C
额定电流 (Ie) Rated Current (Ie)	-	湿度 Humidity	99%
类别 Category	-	高度 Altitude	2000M
标准符合 Standard Compliance with	-	安装 Installation	壁挂式安装 Wall Mounting



6进2出 直流 1000V
6 IN 2 OUT DC 1000V

规格参数 Specification

SP-CAG-PV/6-2			
一般数据 General Data		直流避雷器 DC Surge Protection Device	SPSP-D2
型号 Model	SP-CAG-PV/6-2	最大工作电压(Ucpv) Max Operation Voltage(Ucpv)	1000V
输入 Input	6 串 6 string	标准 Standard	EN 50539 Type2
输出 Output	2 串 2 string	最大放电电流 Maximum Discharge Current	40KA
最大电压 Maximum Voltage	1000V	认证 Certification	TÜV CE CB
每个输入的最大直流短路电流(Isc) Max DC Short Circuit Current Per Input(Isc)	15A (可变) (changeable)		
最大电流输出 Maximum Current Output	63A		
外壳 Enclosure	SP-CAG	直流保险丝座 DC fuse holder	SPOPV-32B&SPOPV-30
材料种类 Material Type	聚碳酸酯 Polycarbonate	LED指示灯 LED Indicator	是 Yes
防护等级 Degree of Protection	IP65	额定工作电压 Rated Working Voltage	1000V
抗冲击程度 Degree of Resistance to Impacts	IK10	熔芯 Fuse	10 X 38mm , 15A
尺寸 (宽x高x深) Dimension (WxHxD)	430 X 630 X 180mm	认证 Certification	TÜV CE
电缆输入入口 Cable input Entry	MC4光伏连接器母头 MC4 Female Connector		
输出电缆接头 Output Cable Gland	PG21 2.5-16mm ²		
直流隔离开关 DC Switch Disconnecter	-	环境 Environment	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	-	工作温度 Operating Temperature	-20℃~+60℃
额定电流 (Ie) Rated Current (Ie)	-	湿度 Humidity	99%
类别 Category	-	高度 Altitude	2000M
标准符合 Standard Compliance with	-	安装 Installation	壁挂式安装 Wall Mounting



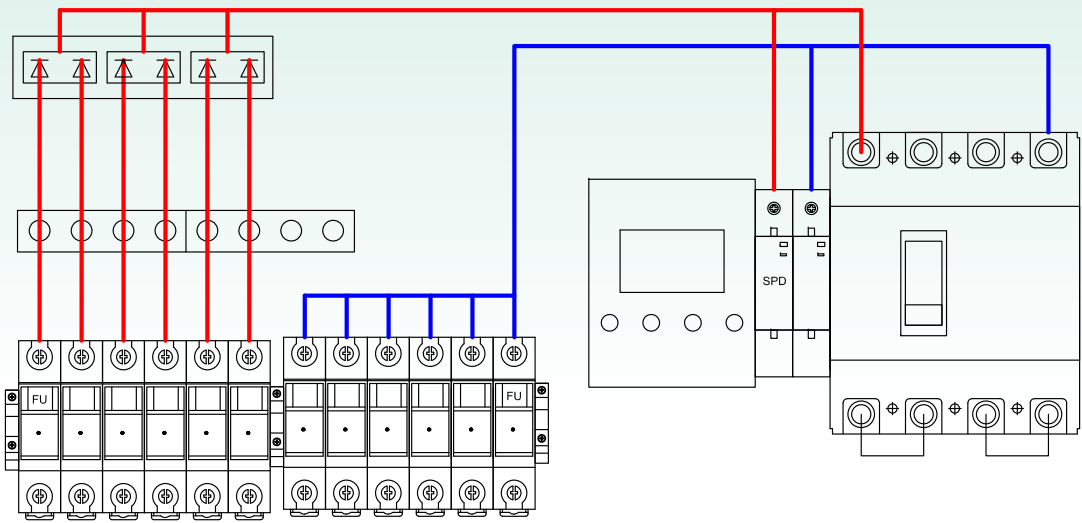
型号 Model

SPPVS-M6

产品特点 Features of Products

光伏汇流箱的防护等级为IP65，适合户外/或户内安装，安装位置应满足：
The photovoltaic combiner box is IP65 protection grade and is suitable for outdoor/or indoor installation.
The installation location should meet:

- 安装位置应充分考虑汇流箱外形尺寸和重量，确保良好的散热和足够的日常维护空间
- 垂直安装，禁止倒置安装本产品，建议采用壁挂式安装或抱柱式安装。
- 环境温度-25℃~+60℃，海拔高度≤3000m。
- 尽量与光伏组件串列“就近安装”，以便更好的汇流和减少线缆使用。
- 避免安装在太阳直射的位置，过高的温度不仅减少系统发电量，也会影响汇流箱寿命
- The installation location should fully consider the overall size and weight of the combiner box to ensure good heat dissipation and sufficient space for daily maintenance.
- Vertical installation. It is forbidden to install this product upside down. It is recommended to use wall-mounted installation or pole-mounted installation.
- Ambient temperature -25℃~+60℃, altitude ≤3000m.
- Try to install them as close to the photovoltaic modules in series as possible to facilitate better convergence and reduce the use of cables.
- Avoid installing in a location exposed to direct sunlight. Excessive temperature will not only reduce the power generation of the system, but also affect the life of the combiner box.



产品概述 Product Overview

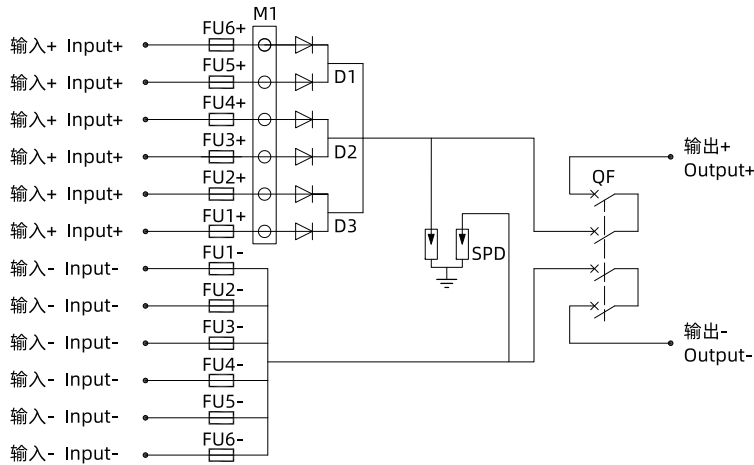
SPPVS-M6光伏汇流箱是一款户外型产品，是为了减少大型光伏并网发电系统的光伏组件与逆变器这间的连接线，方便维护，提高可靠性而设计的光伏并网发电系统解决方案。

用户可根据逆变器输入的直流电压范围，把一定数量、规格相同的光伏组件串联接入光伏阵列汇流箱，通过防雷避雷器与断路器后输出，方便后级逆变器接入。

SPPVS-M6 The photovoltaic combiner box is an outdoor product. It is a photovoltaic grid-connected power generation system solution designed to reduce the connection lines between photovoltaic components and inverters in large-scale photovoltaic grid-connected power generation systems, facilitate maintenance, and improve reliability.

Users can connect a certain number of photovoltaic modules with the same specifications to the photovoltaic array combiner box in series according to the DC voltage range of the inverter input, and then output them through lightning protection arresters and circuit breakers to facilitate the connection of subsequent inverters.

接线示意图 Schematic Diagram



规格参数 Specification

SPPVS-M6	
光伏阵列系统电压 (VDC) Photovoltaic array system voltage (VDC)	DC 1000V , DC 1500V
最大光伏阵列并联输入路数 Maximum number of photovoltaic array parallel input channels	6
输出路数 Number of outout strings	1或客选* 1 or customized*
熔丝额定电流 Fuse rated current	
断路器额定电流 Circuit breaker rated current	63A~160A
组串输入正负极线径 (mm ²) String input positive and negative wire diameters (mm ²)	4~6
输出正负极线径 (mm ²) Output positive and negative wire diameter (mm ²)	10~50
地线线径 (mm ²) Ground wire diameter (mm ²)	≥6
光伏专用直流进线熔断器 Photovoltaic dedicated DC incoming line fuse	额定电压DC1500V额定电流15A/25A/32A (根据组件选择), 分断能力≥30KA Rated voltage DC1500V, rated current 15A/25A/32A (according to component selection), breaking capacity ≥30KA
光伏专业直流总出线开关 Photovoltaic dedicated DC main outlet switch	额定电压DC1500V (可根据客户要求选择直流负荷隔离开关) Rated voltage DC1500V (DC load isolation switch can be selected according to customer requirements)
光伏专用防雷模块 Photovoltaic special lightning protection module	In:20KA, I _{max} :40KA, U _p ≤4KV
防反二极管 Preventing diode	根据客户要求配置 (正向电流IF (AV) 55A, 反向耐受电压Viso3000V) Configured according to customer requirements (forward current IF (AV) 55A, reverse withstand voltage Viso3000V)
拉弧保护功能 Arc protection function	根据客户要求配置 Configured according to customer requirements
温湿度 Temperature and humidity	环境温度: -25℃ ~ +50℃, 存储温度: -40℃ ~ +70℃。湿度: 0 ~ 95%无凝露, 无腐蚀性场所 Operating Temperature: -25℃ ~ +50℃, storage temperature: -40℃ ~ +70℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m (大于2000m必须说明, 最高可达≤5000m) ≤2000m (more than 2000m must be specified, up to ≤5000m)
耐盐度 Salinity tolerance	盐雾试验300小时 (可定做用于海上等严苛环境的盐雾试验500小时的产品) Salt spray test for 300 hours (products with 500 hours of salt spray test for harsh environments such as offshore can be customized)
测量方式 Measurement method	汇流箱监控模块 Combiner box monitoring module
通讯接口 Communication Interface	RS485
通讯协议 Protocol	Modbus-RTU

规格参数 Specification

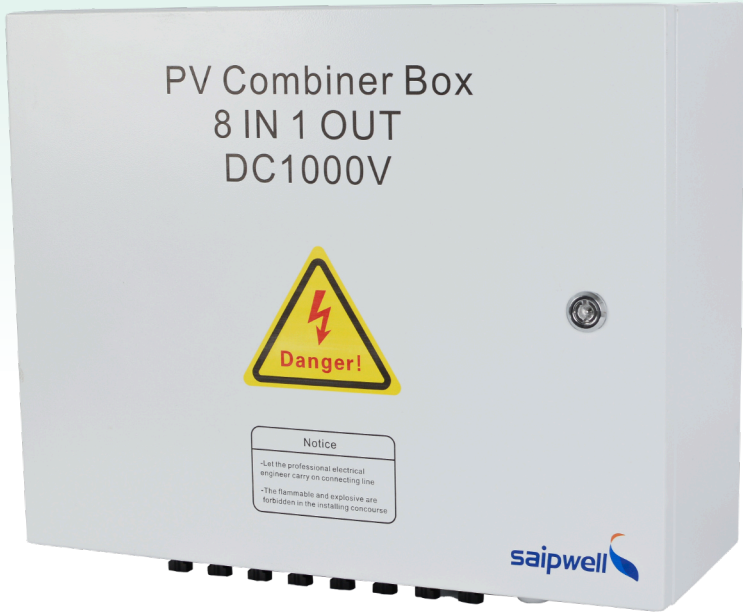
SPPVS-M6	
功能 Function	每路组串的电流、总电压、箱内温度的测量，断路器状态、防雷避雷器状态采集，报警和故障定位 Measurement of the current, total voltage, and box temperature of each string, collection of circuit breaker status, lightning protection and arrester status, alarm and fault location.
供电方式 Power supply	自供电（DC200V ~ DC1000V） Self-powered (DC200V ~ DC1000V)
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃ ~ +120℃） PC insulation cover (temperature resistance: -40℃ ~ +120℃)
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2702V/1min
材质 Material	PP塑料箱/304不锈钢/Q235冷轧钢板/镀锌板 PP plastic box/304 stainless steel/Q235 cold rolled steel plate/galvanized plate
防护等级 Protection level	IP65/或客选* IP65/ or customized *
进出线接口 Incoming and outgoing line interface	电缆防水接头（不锈钢格兰）PA66/IP68，光伏专用防水接头/IP67 Cable waterproof connector (stainless steel gland) PA66/IP68, photovoltaic special waterproof connector/IP67
安装方式 Installation method	直立壁挂式安装/直立抱箍（柱）式安装/卧式安装（带遮阳板，防护等级IP67/水面漂浮） Upright wall-mounted installation/upright hoop (column) installation/horizontal installation (with sun visor, protection grade IP67/floating on water)
尺寸（宽x高x深）mm Width × High x Depth （mm）	350×400×160
重量 Kg Weight Kg	15~30

说明：

- 1.加 “*” 并注明 “客选” 项，可根据客户提供的参数要求定制。
- 2.箱体尺寸也可由客户指定或按需设计。

Notes:

1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.
2. The size of the cabinet can also be specified by the customer or designed on demand.



型号 Model

SPPVS-M8

产品特点 Features of Products

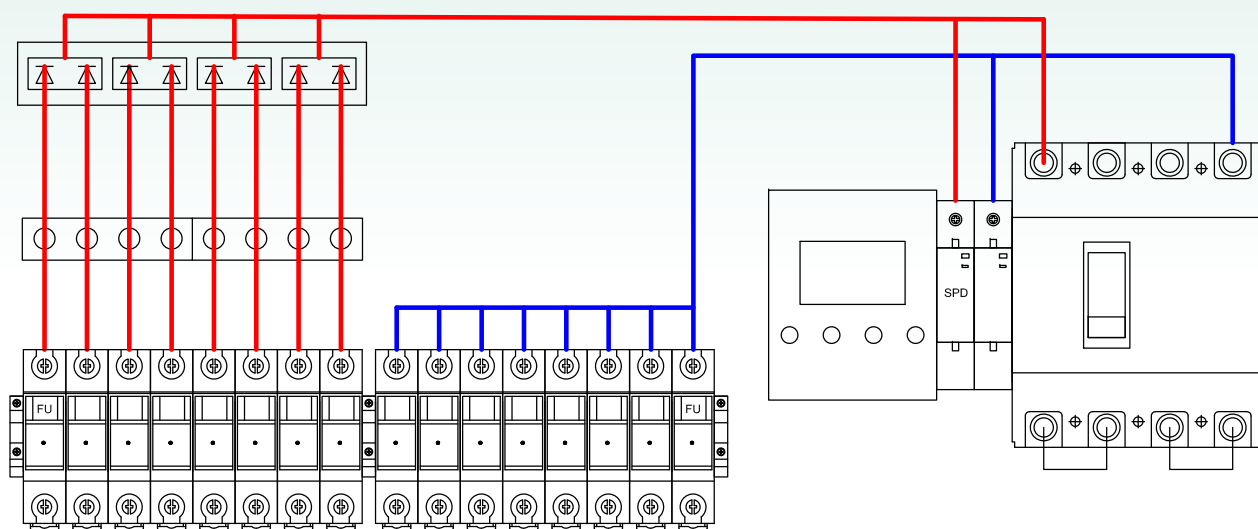
光伏汇流箱的防护等级为IP65，适合户外/或户内安装，安装位置应满足：

The photovoltaic combiner box is IP65 protection grade and is suitable for outdoor/or indoor installation.

The installation location should meet:

- 安装位置应充分考虑汇流箱外形尺寸和重量，确保良好的散热和足够的日常维护空间
- 垂直安装，禁止倒置安装本产品，建议采用壁挂式安装或抱柱式安装。
- 环境温度-25℃ ~ +60℃，海拔高度≤3000m。
- 尽量与光伏组件串联“就近安装”，以便更好的汇流和减少线缆使用。
- 避免安装在太阳直射的位置，过高的温度不仅减少系统发电量，也会影响汇流箱寿命
- The installation location should fully consider the overall size and weight of the combiner box to ensure good heat dissipation and sufficient space for daily maintenance.
- Vertical installation. It is forbidden to install this product upside down. It is recommended to use wall-mounted installation or pole-mounted installation.
- Ambient temperature -25℃ ~ +60℃, altitude ≤3000m.
- Try to install them as close to the photovoltaic modules in series as possible to facilitate better convergence and reduce the use of cables.
- Avoid installing in a location exposed to direct sunlight. Excessive temperature will not only reduce the power generation of the system, but also affect the life of the combiner box.

接线示意图 Schematic Diagram



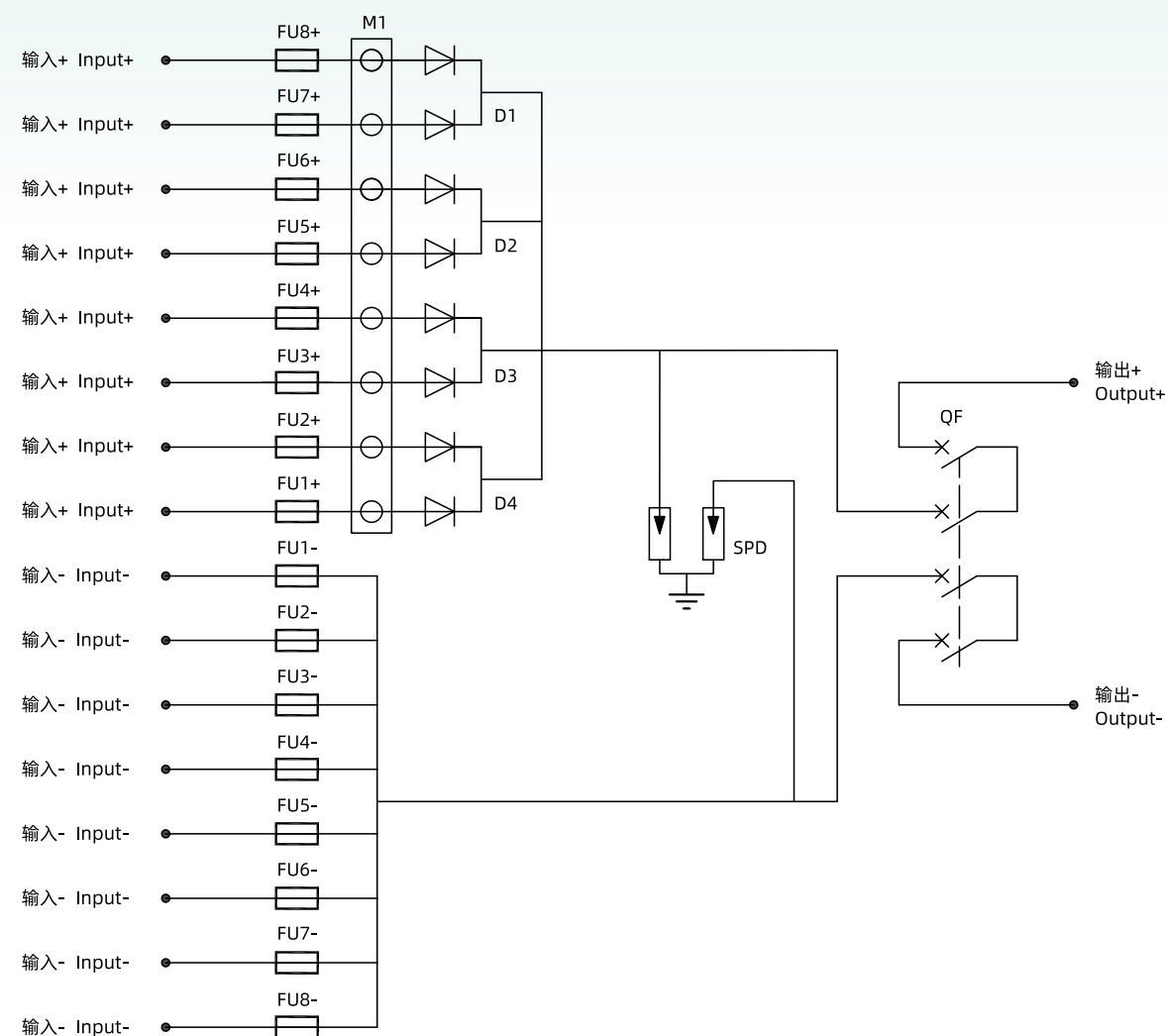
产品概述 Product Overview

SPPVS-M8光伏汇流箱是一款户外型产品，是为了减少大型光伏并网发电系统的光伏组件与逆变器这间的连接线，方便维护，提高可靠性而设计的光伏并网发电系统解决方案。

用户可根据逆变器输入的直流电压范围，把一定数量、规格相同的光伏组件串联接入光伏阵列汇流箱，通过防雷避雷器与断路器后输出，方便后级逆变器接入。

SPPVS-M8 The photovoltaic combiner box is an outdoor product. It is a photovoltaic grid-connected power generation system solution designed to reduce the connection lines between photovoltaic components and inverters in large-scale photovoltaic grid-connected power generation systems, facilitate maintenance, and improve reliability.

Users can connect a certain number of photovoltaic modules with the same specifications to the photovoltaic array combiner box in series according to the DC voltage range of the inverter input, and then output them through lightning protection arresters and circuit breakers to facilitate the connection of subsequent inverters.



规格参数 Specification

SPPVS-M8	
光伏阵列系统电压（VDC） Photovoltaic array system voltage（VDC）	DC 1000V，DC 1500V
最大光伏阵列并联输入路数 Maximum number of photovoltaic array parallel input channels	8
输出路数 Number of outout strings	1或客选* 1 or customized*
熔丝额定电流 Fuse rated current	
断路器额定电流 Circuit breaker rated current	63A~160A
组串输入正负极线径（mm ² ） String input positive and negative wire diameters（mm ² ）	4~6
输出正负极线径（mm ² ） Output positive and negative wire diameter（mm ² ）	16~100
地线线径（mm ² ） Ground wire diameter（mm ² ）	≥10
光伏专用直流进线熔断器 Photovoltaic dedicated DC incoming line fuse	额定电压DC1500V额定电流15A/25A/32A（根据组件选择），分断能力≥30KA Rated voltage DC1500V, rated current 15A/25A/32A (according to component selection), breaking capacity ≥30KA
光伏专业直流总出线开关 Photovoltaic dedicated DC main outlet switch	额定电压DC1500V（可根据客户要求选择直流负荷隔离开关） Rated voltage DC1500V (DC load isolation switch can be selected according to customer requirements)
光伏专用防雷模块 Photovoltaic special lightning protection module	In:20KA，Imax:40KA，Up:≤4KV
防反二极管 Preventing diode	根据客户要求配置（正向电流IF（AV）55A，反向耐受电压Viso3000V） Configured according to customer requirements (forward current IF (AV) 55A, reverse withstand voltage Viso3000V)
拉弧保护功能 Arc protection function	根据客户要求配置 Configured according to customer requirements
温湿度 Temperature and humidity	环境温度：-25℃~+50℃，存储温度：-40℃~+70℃。湿度：0~95%无凝露，无腐蚀性场所 Operating Temperature: -25℃~+50℃, storage temperature: -40℃~+70℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m（大于2000m必须说明，最高可达≤5000m） ≤2000m (more than 2000m must be specified, up to ≤5000m)
耐盐度 Salinity tolerance	盐雾试验300小时（可定做用于海上等严苛环境的盐雾试验500小时的产品） Salt spray test for 300 hours (products with 500 hours of salt spray test for harsh environments such as offshore can be customized)
测量方式 Measurement method	汇流箱监控模块 Combiner box monitoring module
通讯接口 Communication Interface	RS485
通讯协议 Protocol	Modbus-RTU

规格参数 Specification

SPPVS-M8	
功能 Function	每路组串的电流、总电压、箱内温度的测量，断路器状态、防雷避雷器状态采集，报警和故障定位 Measurement of the current, total voltage, and box temperature of each string, collection of circuit breaker status, lightning protection and arrester status, alarm and fault location.
供电方式 Power supply	自供电（DC200V~DC1000V） Self-powered (DC200V~DC1000V)
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃~+120℃） PC insulation cover (temperature resistance: -40℃~+120℃)
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2702V/1min
材质 Material	PP塑料箱/304不锈钢/Q235冷轧钢板/镀锌板 PP plastic box/304 stainless steel/Q235 cold rolled steel plate/galvanized plate
防护等级 Protection level	IP65/或客选* IP65/ or customized *
进出线接口 Incoming and outgoing line interface	电缆防水接头（不锈钢格兰）PA66/IP68，光伏专用防水接头/IP67 Cable waterproof connector (stainless steel gland) PA66/IP68, photovoltaic special waterproof connector/IP67
安装方式 Installation method	直立壁挂式安装/直立抱箍（柱）式安装/卧式安装（带遮阳板，防护等级IP67/水面漂浮） Upright wall-mounted installation/upright hoop (column) installation/horizontal installation (with sun visor, protection grade IP67/floating on water)
尺寸（宽x高x深）mm Width × High x Depth（mm）	450×500×160
重量 Kg Weight Kg	25~45

说明：

- 1.加 “*” 并注明 “客选” 项，可根据客户提供的参数要求定制。
2.箱体尺寸也可由客户指定或按需设计。

Notes:

1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.
2. The size of the cabinet can also be specified by the customer or designed on demand.



型号 Model

SPPVS-M12

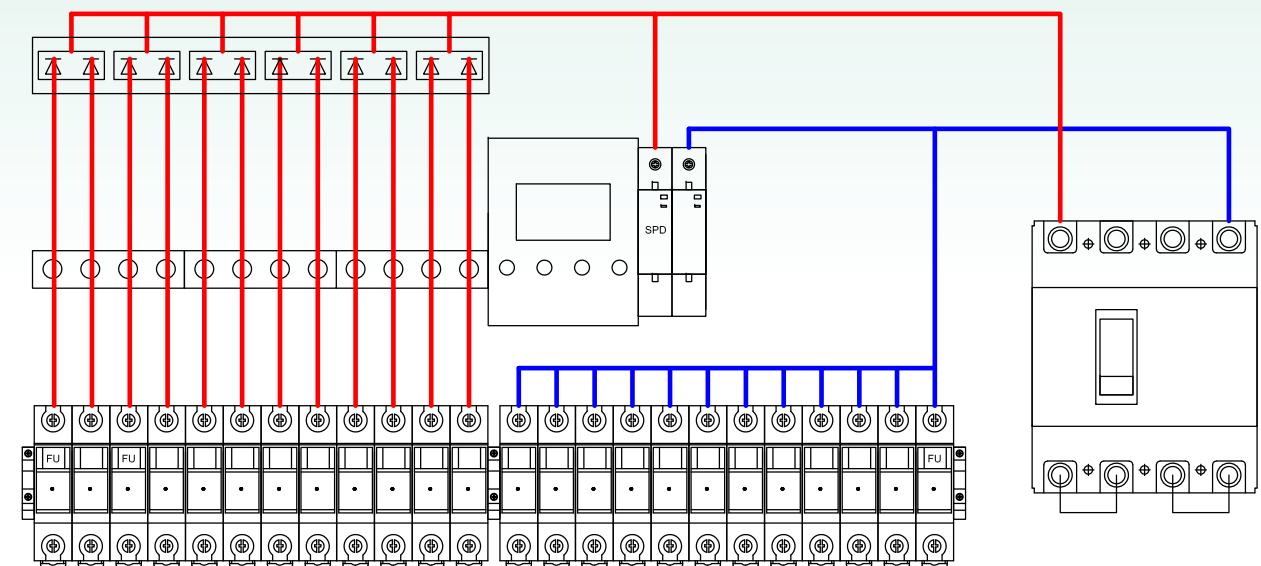
产品特点 Features of Products

光伏汇流箱的防护等级为IP65，适合户外/或户内安装，安装位置应满足：

The photovoltaic combiner box is IP65 protection grade and is suitable for outdoor/or indoor installation.

The installation location should meet:

- 安装位置应充分考虑汇流箱外形尺寸和重量，确保良好的散热和足够的日常维护空间
- 垂直安装，禁止倒置安装本产品，建议采用壁挂式安装或抱柱式安装。
- 环境温度-25℃~+60℃，海拔高度≤3000m。
- 尽量与光伏组件串联“就近安装”，以便更好的汇流和减少线缆使用。
- 避免安装在太阳直射的位置，过高的温度不仅减少系统发电量，也会影响汇流箱寿命
- The installation location should fully consider the overall size and weight of the combiner box to ensure good heat dissipation and sufficient space for daily maintenance.
- Vertical installation. It is forbidden to install this product upside down. It is recommended to use wall-mounted installation or pole-mounted installation.
- Ambient temperature -25℃~+60℃, altitude ≤3000m.
- Try to install them as close to the photovoltaic modules in series as possible to facilitate better convergence and reduce the use of cables.
- Avoid installing in a location exposed to direct sunlight. Excessive temperature will not only reduce the power generation of the system, but also affect the life of the combiner box.



产品概述 Product Overview

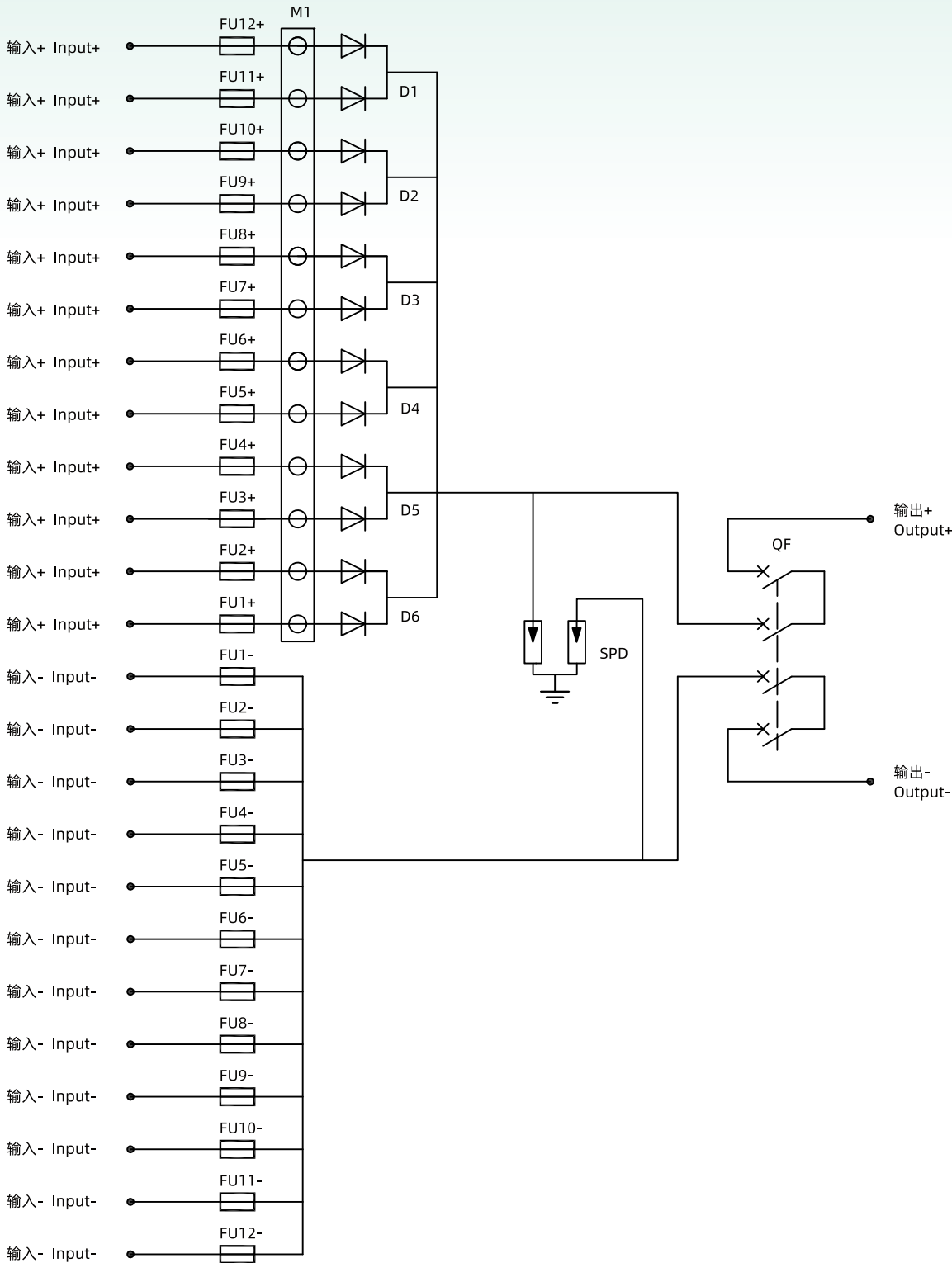
SPPVS-M12光伏汇流箱是一款户外型产品，是为了减少大型光伏并网发电系统的光伏组件与逆变器这间的连接线，方便维护，提高可靠性而设计的光伏并网发电系统解决方案。

用户可根据逆变器输入的直流电压范围，把一定数量、规格相同的光伏组件串联接入光伏阵列汇流箱，通过防雷避雷器与断路器后输出，方便后级逆变器接入。

SPPVS-M12 The photovoltaic combiner box is an outdoor product. It is a photovoltaic grid-connected power generation system solution designed to reduce the connection lines between photovoltaic components and inverters in large-scale photovoltaic grid-connected power generation systems, facilitate maintenance, and improve reliability.

Users can connect a certain number of photovoltaic modules with the same specifications to the photovoltaic array combiner box in series according to the DC voltage range of the inverter input, and then output them through lightning protection arresters and circuit breakers to facilitate the connection of subsequent inverters.

接线示意图 Schematic Diagram



规格参数 Specification

SPPVS-M12	
光伏阵列系统电压 (VDC) Photovoltaic array system voltage (VDC)	DC 1000V , DC 1500V
最大光伏阵列并联输入路数 Maximum number of photovoltaic array parallel input channels	12
输出路数 Number of outout strings	1或客选* 1 or customized*
熔丝额定电流 Fuse rated current	
断路器额定电流 Circuit breaker rated current	63A~160A
组串输入正负极线径 (mm²) String input positive and negative wire diameters (mm²)	4~6
输出正负极线径 (mm²) Output positive and negative wire diameter (mm²)	16~100
地线线径 (mm²) Ground wire diameter (mm²)	≥10
光伏专用直流进线熔断器 Photovoltaic dedicated DC incoming line fuse	额定电压DC1500V额定电流15A/25A/32A (根据组件选择) , 分断能力≥30KA Rated voltage DC1500V, rated current 15A/25A/32A (according to component selection), breaking capacity ≥30KA
光伏专业直流总出线开关 Photovoltaic dedicated DC main outlet switch	额定电压DC1500V (可根据客户要求选择直流负荷隔离开关) Rated voltage DC1500V (DC load isolation switch can be selected according to customer requirements)
光伏专用防雷模块 Photovoltaic special lightning protection module	In:20KA, Imax:40KA, Up:≤4KV
防反二极管 Preventing diode	根据客户要求配置 (正向电流IF (AV) 55A, 反向耐受电压Viso3000V) Configured according to customer requirements (forward current IF (AV) 55A, reverse withstand voltage Viso3000V)
拉弧保护功能 Arc protection function	根据客户要求配置 Configured according to customer requirements
温湿度 Temperature and humidity	环境温度: -25℃ ~ +50℃, 存储温度: -40℃ ~ +70℃。湿度: 0 ~ 95%无凝露, 无腐蚀性场所 Operating Temperature: -25℃ ~ +50℃, storage temperature: -40℃ ~ +70℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m (大于2000m必须说明, 最高可达≤5000m) ≤2000m (more than 2000m must be specified, up to ≤5000m)
耐盐度 Salinity tolerance	盐雾试验300小时 (可定做用于海上等严苛环境的盐雾试验500小时的产品) Salt spray test for 300 hours (products with 500 hours of salt spray test for harsh environments such as offshore can be customized)
测量方式 Measurement method	汇流箱监控模块 Combiner box monitoring module
通讯接口 Communication Interface	RS485
通讯协议 Protocol	Modbus-RTU

规格参数 Specification

SPPVS-M12	
功能 Function	每路组串的电流、总电压、箱内温度的测量，断路器状态、防雷避雷器状态采集，报警和故障定位 Measurement of the current, total voltage, and box temperature of each string, collection of circuit breaker status, lightning protection and arrester status, alarm and fault location.
供电方式 Power supply	自供电（DC200V ~ DC1000V） Self-powered (DC200V ~ DC1000V)
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃ ~ +120℃） PC insulation cover (temperature resistance: -40℃ ~ +120℃)
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2702V/1min
材质 Material	PP塑料箱/304不锈钢/Q235冷轧钢板/镀锌板 PP plastic box/304 stainless steel/Q235 cold rolled steel plate/galvanized plate
防护等级 Protection level	IP65/或客选* IP65/ or customized *
进出线接口 Incoming and outgoing line interface	电缆防水接头（不锈钢格兰）PA66/IP68，光伏专用防水接头/IP67 Cable waterproof connector (stainless steel gland) PA66/IP68, photovoltaic special waterproof connector/IP67
安装方式 Installation method	直立壁挂式安装/直立抱箍（柱）式安装/卧式安装（带遮阳板，防护等级IP67/水面漂浮） Upright wall-mounted installation/upright hoop (column) installation/horizontal installation (with sun visor, protection grade IP67/floating on water)
尺寸（宽x高x深）mm Width × High x Depth （mm）	500×600×200
重量 Kg Weight Kg	25~45

说明：

- 1.加 “*” 并注明 “客选” 项，可根据客户提供的参数要求定制。
- 2.箱体尺寸也可由客户指定或按需设计。

Notes:

- 1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.
- 2. The size of the cabinet can also be specified by the customer or designed on demand.



型号 Model
SPPVS-M16

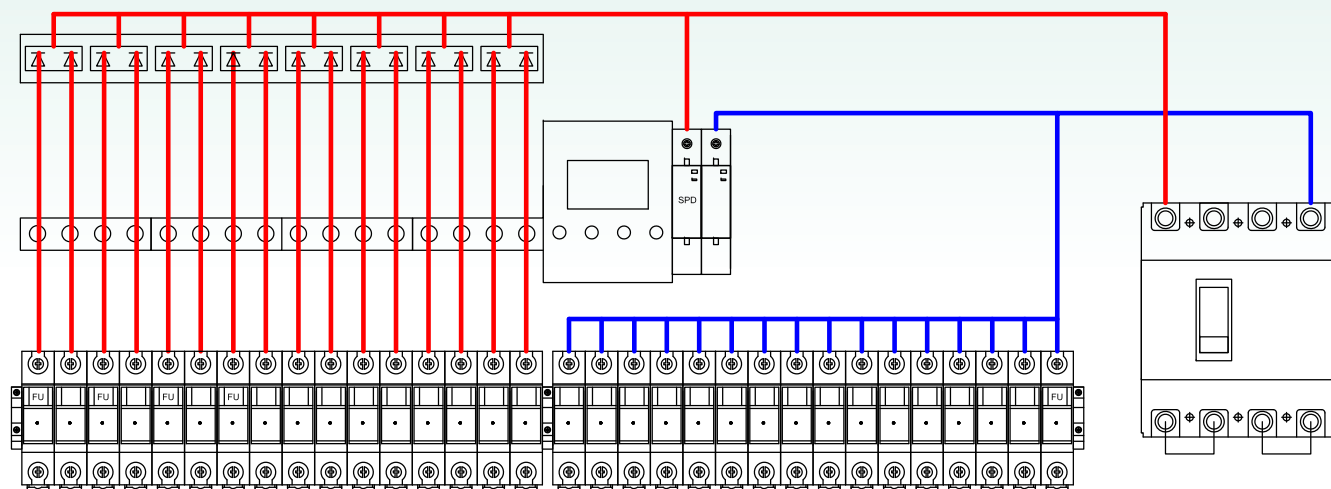
产品特点 Features of Products

光伏汇流箱的防护等级为IP65，适合户外/或户内安装，安装位置应满足：

The photovoltaic combiner box is IP65 protection grade and is suitable for outdoor/or indoor installation.

The installation location should meet:

- 安装位置应充分考虑汇流箱外形尺寸和重量，确保良好的散热和足够的日常维护空间
- 垂直安装，禁止倒置安装本产品，建议采用壁挂式安装或抱柱式安装。
- 环境温度-25℃ ~ +60℃，海拔高度≤3000m。
- 尽量与光伏组件串列“就近安装”，以便更好的汇流和减少线缆使用。
- 避免安装在太阳直射的位置，过高的温度不仅减少系统发电量，也会影响汇流箱寿命
- The installation location should fully consider the overall size and weight of the combiner box to ensure good heat dissipation and sufficient space for daily maintenance.
- Vertical installation. It is forbidden to install this product upside down. It is recommended to use wall-mounted installation or pole-mounted installation.
- Ambient temperature -25℃ ~ +60℃, altitude ≤3000m.
- Try to install them as close to the photovoltaic modules in series as possible to facilitate better convergence and reduce the use of cables.
- Avoid installing in a location exposed to direct sunlight. Excessive temperature will not only reduce the power generation of the system, but also affect the life of the combiner box.



产品概述 Product Overview

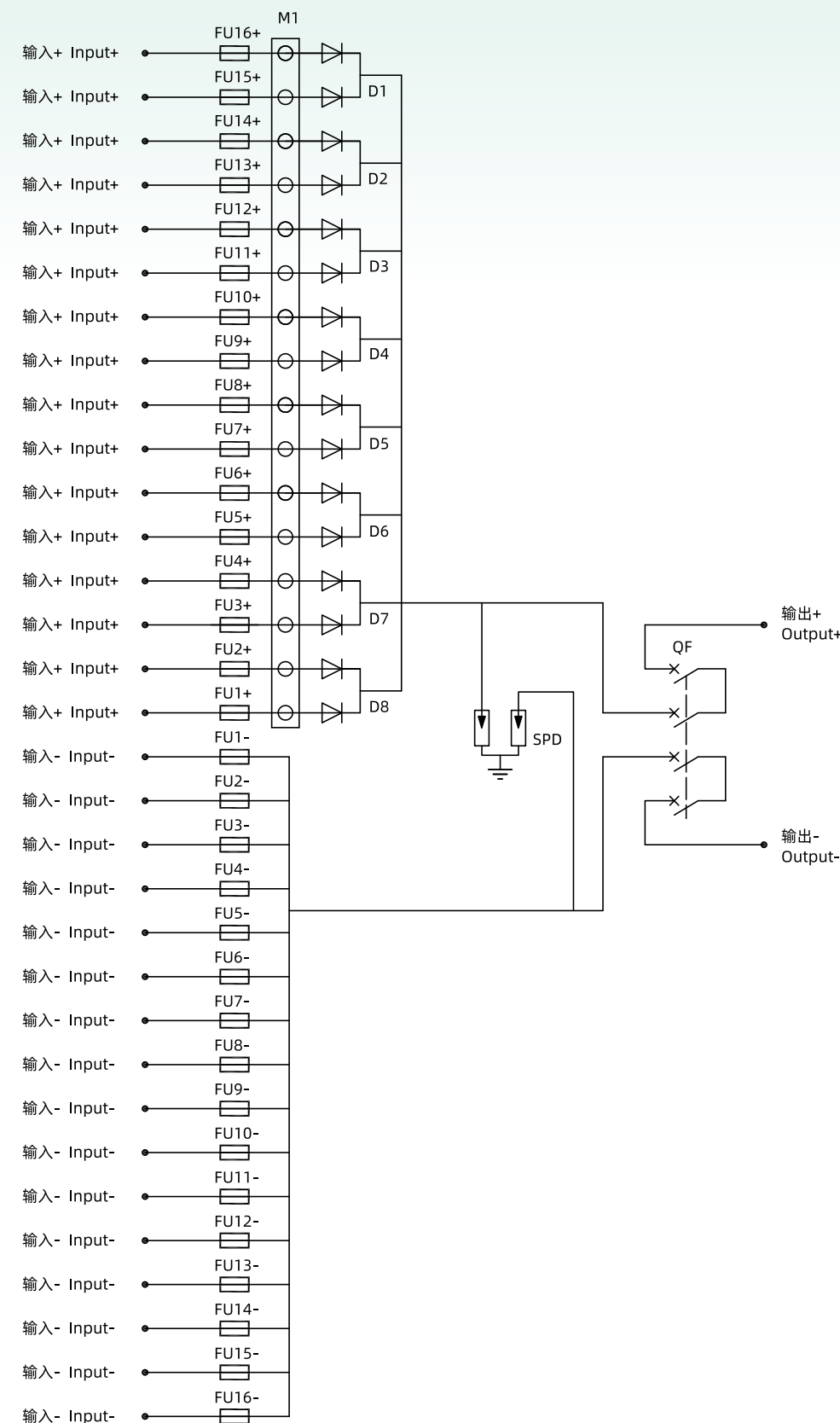
SPPVS-M16光伏汇流箱是一款户外型产品，是为了减少大型光伏并网发电系统的光伏组件与逆变器这间的连接线，方便维护，提高可靠性而设计的光伏并网发电系统解决方案。

用户可根据逆变器输入的直流电压范围，把一定数量、规格相同的光伏组件串联接入光伏阵列汇流箱，通过防雷避雷器与断路器后输出，方便后级逆变器接入。

SPPVS-M16 The photovoltaic combiner box is an outdoor product. It is a photovoltaic grid-connected power generation system solution designed to reduce the connection lines between photovoltaic components and inverters in large-scale photovoltaic grid-connected power generation systems, facilitate maintenance, and improve reliability.

Users can connect a certain number of photovoltaic modules with the same specifications to the photovoltaic array combiner box in series according to the DC voltage range of the inverter input, and then output them through lightning protection arresters and circuit breakers to facilitate the connection of subsequent inverters.

接线示意图 Schematic Diagram





SMART DC COMBINER BOX
智能直流光伏汇流箱

规格参数 Specification

SPPVS-M16	
光伏阵列系统电压（VDC） Photovoltaic array system voltage（VDC）	DC 1000V，DC 1500V
最大光伏阵列并联输入路数 Maximum number of photovoltaic array parallel input channels	16
输出路数 Number of outout strings	1或客选* 1 or customized*
熔丝额定电流 Fuse rated current	
断路器额定电流 Circuit breaker rated current	200A~400A
组串输入正负极线径（mm ² ） String input positive and negative wire diameters（mm ² ）	4~10
输出正负极线径（mm ² ） Output positive and negative wire diameter（mm ² ）	16~185
地线线径（mm ² ） Ground wire diameter（mm ² ）	≥10
光伏专用直流进线熔断器 Photovoltaic dedicated DC incoming line fuse	额定电压DC1500V额定电流15A/25A/32A（根据组件选择），分断能力≥30KA Rated voltage DC1500V, rated current 15A/25A/32A (according to component selection), breaking capacity ≥30KA
光伏专业直流总出线开关 Photovoltaic dedicated DC main outlet switch	额定电压DC1500V（可根据客户要求选择直流负荷隔离开关） Rated voltage DC1500V (DC load isolation switch can be selected according to customer requirements)
光伏专用防雷模块 Photovoltaic special lightning protection module	In:20KA，Imax:40KA，Up:≤4KV
防反二极管 Preventing diode	根据客户要求配置（正向电流IF（AV）55A，反向耐受电压Viso3000V） Configured according to customer requirements (forward current IF (AV) 55A, reverse withstand voltage Viso3000V)
拉弧保护功能 Arc protection function	根据客户要求配置 Configured according to customer requirements
温湿度 Temperature and humidity	环境温度：-25℃~+50℃，存储温度：-40℃~+70℃。湿度：0~95%无凝露，无腐蚀性场所 Operating Temperature: -25℃~+50℃, storage temperature: -40℃~+70℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m（大于2000m必须说明，最高可达≤5000m） ≤2000m (more than 2000m must be specified, up to ≤5000m)
耐盐度 Salinity tolerance	盐雾试验300小时（可定做用于海上等严苛环境的盐雾试验500小时的产品） Salt spray test for 300 hours (products with 500 hours of salt spray test for harsh environments such as offshore can be customized)
测量方式 Measurement method	汇流箱监控模块 Combiner box monitoring module
通讯接口 Communication Interface	RS485
通讯协议 Protocol	Modbus-RTU



SMART DC COMBINER BOX
智能直流光伏汇流箱

规格参数 Specification

SPPVS-M16	
功能 Function	每路组串的电​​流、总电压、箱内温度的测量，断路器状态、防雷避雷器状态采集，报警和故障定位 Measurement of the current, total voltage, and box temperature of each string, collection of circuit breaker status, lightning protection and arrester status, alarm and fault location.
供电方式 Power supply	自供电（DC200V~DC1000V） Self-powered (DC200V~DC1000V)
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃~+120℃） PC insulation cover (temperature resistance: -40℃~+120℃)
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2702V/1min
材质 Material	304不锈钢/Q235冷轧钢板/镀锌板/或客选* 304 stainless steel / Q235 cold rolled steel plate / galvanized plate / or customized *
防护等级 Protection level	IP65/或客选* IP65/ or customized *
进出线接口 Incoming and outgoing line interface	电缆防水接头（不锈钢格兰）PA66/IP68，光伏专用防水接头/IP67 Cable waterproof connector (stainless steel gland) PA66/IP68, photovoltaic special waterproof connector/IP67
安装方式 Installation method	直立壁挂式安装/直立抱箍（柱）式安装/卧式安装（带遮阳板，防护等级IP67/水面漂浮） Upright wall-mounted installation/upright hoop (column) installation/horizontal installation (with sun visor, protection grade IP67/floating on water)
尺寸（宽x高x深）mm Width × High x Depth（mm）	930×690×260
重量 Kg Weight Kg	35~52

说明：

- 1.加“*”并注明“客选”项，可根据客户提供的参数要求定制。
- 2.箱体尺寸也可由客户指定或按需设计。

Notes:

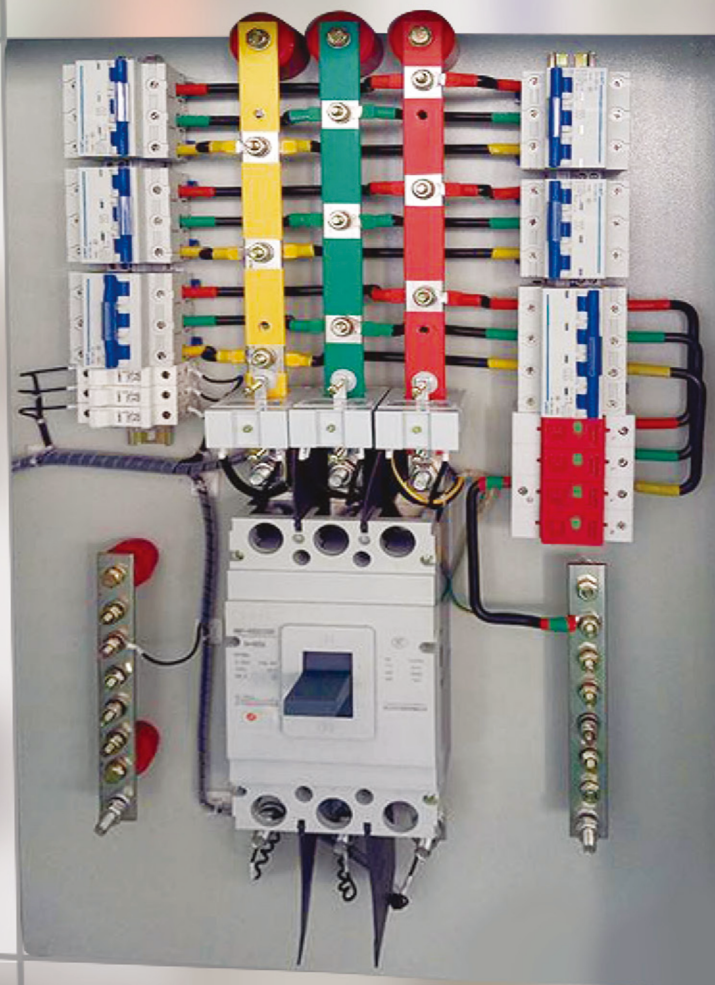
- 1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.
- 2. The size of the cabinet can also be specified by the customer or designed on demand.

交流汇流箱 AC COMBINER BOX

SPPVNAC 4 1 400

① ② ③ ④

- ① 斯普威尔电气产品型号（汇流箱）AC
Saipwell electric Product Model (combiner box) AC
- ② 输入通道（4/6/8）
Input channel (4/6/8)
- ③ 输出通道
Output channel
- ④ 交流 400V
AC 400V



AC COMBINER BOX 交流光伏汇流箱

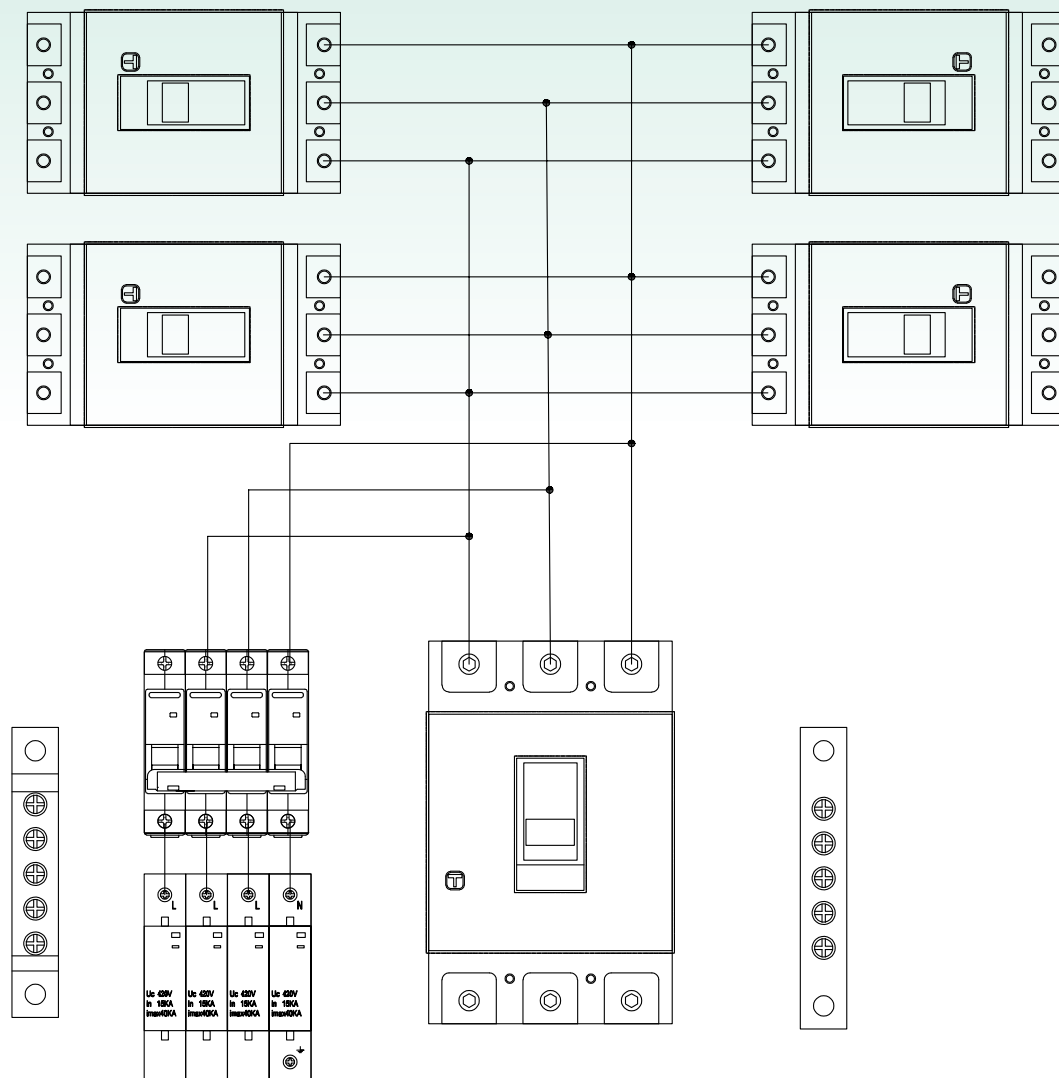


型号 Model

SPPVNAC-N4/400

产品特点 Features of Products

- 外观精美，安装维护便捷
- 箱体保护等级IP65
- 连接线表面为耐腐蚀、防氧化能力更强的镀镍处理工艺
- 采用耐盐雾试验500小时的箱体
- 具有短路保护、防雷保护、接地保护功能。
- 元器件均采用国内外知名品牌产品
- Beautiful appearance, convenient installation, and maintenance
- Protection level: IP65
- The surface of the connecting wire is nickel plating with stronger corrosion resistance and oxidation resistance
- The box used has been subjected to salt spray test for 500 hours
- It has short circuit protection, lightning protection-and earthing protection function
- Components are all made from world-renowned brands

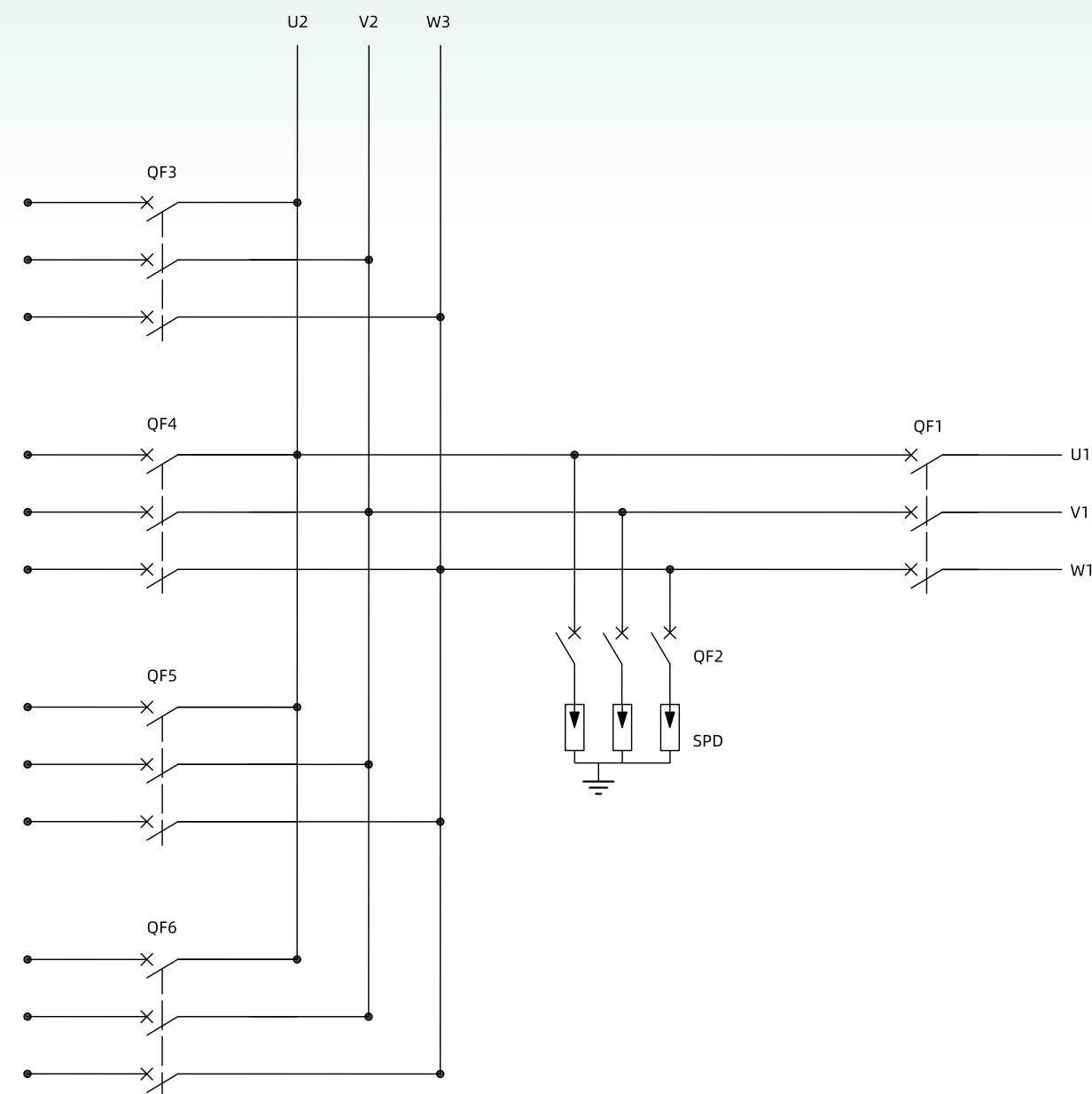


产品概述 Product Overview

SPPVNAC-N4/400交流汇流箱适用于集团电力系统。是承担串联逆变、交流配电的重要组成部分柜或升压变压器并接入最多四组光伏组逆变器。进线与断路器的输入线和输出线相连接断路器或负载隔离开关。母线具有两级防雷保护。系统最高额定电压为AC690V。IP65防护等级与逆变器相同。安装在室外。具有防水、防尘、防紫外线、防盐雾腐蚀等功能。汇流箱大大简化了串联逆变器与交流配电柜或升压变压器之间的连接。简单明了内部结构合理布线，可靠性高，维护简单。户外壁挂式可以适应恶劣的环境。除了材质和尺寸之外，还可以根据用户要求定制。

SPPVNAC-N4/400 AC combiner box is applicable to the group on power system. It is an important part to undertake series inverter and AC power distribution cabinet or a step-up transformer and access up to four sets of photovoltaic group on inverter. Into line with the input of circuit breaker and output line with circuit breaker or the load isolating switch. Bus bar with two levels of lightning protection. Highest rated system voltage is AC690V. IP65 Protection class same as inverter. Installed outdoor. With waterproof, dustproof, anti UV, anti salt spray corrosion etc. function. The combiner box greatly simplifies the connection between series inverter and AC power distribution cabinet or boost transformer. Simple and clear internal structure make reasonable wiring, High reliability and simple maintenance. Outdoor wall mounted can adapt to the harsh environment. In addition to the material and size, it can be customized according to user requirements.

接线示意图 Schematic Diagram



规格参数 Specification

SPPVNAC-N4/400	
输入回路数 Number of input strings	4
输出路数 Number of output strings	1或客选* 1 or customized*
适用电路 Applicable circuit	三相四线/三相五线 Three-phase four-wire/three-phase five-wire
熔丝额定电流 Fuse rated current	100A/250A/400A
额定工作电压 Rated working voltage	400V
单回路输入/输出电流地（36KW逆变器） Single circuit input/output current ground (36KW inverter)	80A/315A
单回路输入/输出电流地（50KW逆变器） Single circuit input/output current ground (50KW inverter)	100A/400A
单回路输入/输出电流地（60KW逆变器） Single circuit input/output current ground (60KW inverter)	125A/500A
单回路输入/输出电流地（80KW逆变器） Single circuit input/output current ground (80KW inverter)	160A/630A
进线极限分断能力 Incoming line limit breaking capacity	35KV ~ 70KA（400V）
出线极限分断能力 Outgoing line limit breaking capacity	35KV ~ 70KA（400V）
交流防雷放电电流 AC lightning protection discharge current	In:20KA, Imax:40KA, Up:≤1.5KV
短路保护 Short circuit protection	有 Yes
监控及通讯 Monitoring and communication	客户可选择定制 Could be customized
温湿度 Temperature and humidity	环境温度：-10℃ ~ +40℃，存储温度：-25℃ ~ +50℃。湿度：0 ~ 95%无凝露，无腐蚀性场所 Operating Temperature: -10℃ ~ +40℃, storage temperature: -25℃ ~ +50℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m（大于2000m必须说明，最高可达≤3000m） ≤2000m (more than 2000m must be specified, up to ≤3000m)
耐盐度 Salinity tolerance	按客户要求定制断路器和配件处理以适用客户要求 Customize circuit breakers and other accessories to suit customer requirements

规格参数 Specification

SPPVNAC-N4/400	
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃ ~ +120℃） PC insulation cover (temperature resistance: -40℃ ~ +120℃)
电气间隙 Electrical clearance	≥14mm
爬电距离 Creepage distance	≥25mm
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2200V/1min
材质 Material	PP塑料箱/304不锈钢/Q235冷轧钢板/镀锌板 PP plastic box/304 stainless steel/Q235 cold rolled steel plate/galvanized plate
体积（宽×高×深）（mm） Minimum size (Width × High × Depth) (mm)	930×690×260
重量Kg Weight Kg	35 ~ 60
可选功能 Optional features	1.每路进线（电流、电压、功率、电能）测量，总出线（电流、电压、功率、电能）测量 2.防雷器状态采集，进线断路器状态采集，出线断路器状态采集，箱内温度、湿度采集 3.过、欠压保护 4.断路器远程合闸、分闸 1. Measure each incoming line (current, voltage, power, electric energy) and the total outgoing line (current, voltage, power, electric energy). 2. Collection of lightning protector status, incoming circuit breaker status collection, outgoing circuit breaker status collection, and box temperature and humidity collection. 3. Over and under voltage protection. 4. Remote closing and opening of circuit breaker

说明：

- 1.加 “*” 并注明 “客选” 项，可根据客户提供的参数要求定制。
- 2.箱体尺寸也可由客户指定或按需设计。

Notes:

- 1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.
- 2. The size of the cabinet can also be specified by the customer or designed on demand.

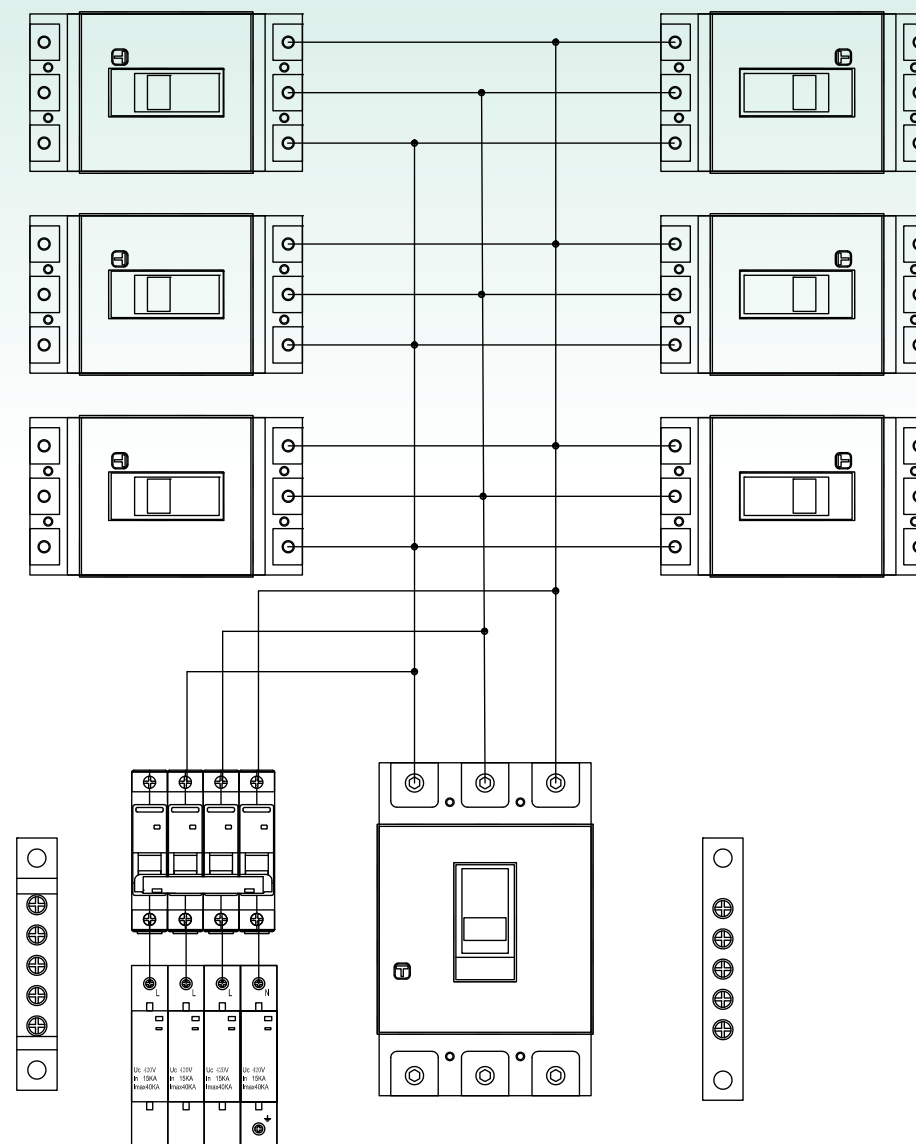


型号 Model

SPPVNAC-N6/400

产品特点 Features of Products

- 外观精美，安装维护便捷
- 箱体保护等级IP65
- 连接线表面为耐腐蚀、防氧化能力更强的镀镍处理工艺
- 采用耐盐雾试验500小时的箱体
- 具有短路保护、防雷保护、接地保护功能。
- 元器件均采用国内外知名品牌产品
- Beautiful appearance, convenient installation, and maintenance
- Protection level: IP65
- The surface of the connecting wire is nickel plating with stronger corrosion resistance and oxidation resistance
- The box used has been subjected to salt spray test for 500 hours
- It has short circuit protection, lightning protection-and earthing protection function
- Components are all made from world-renowned brands

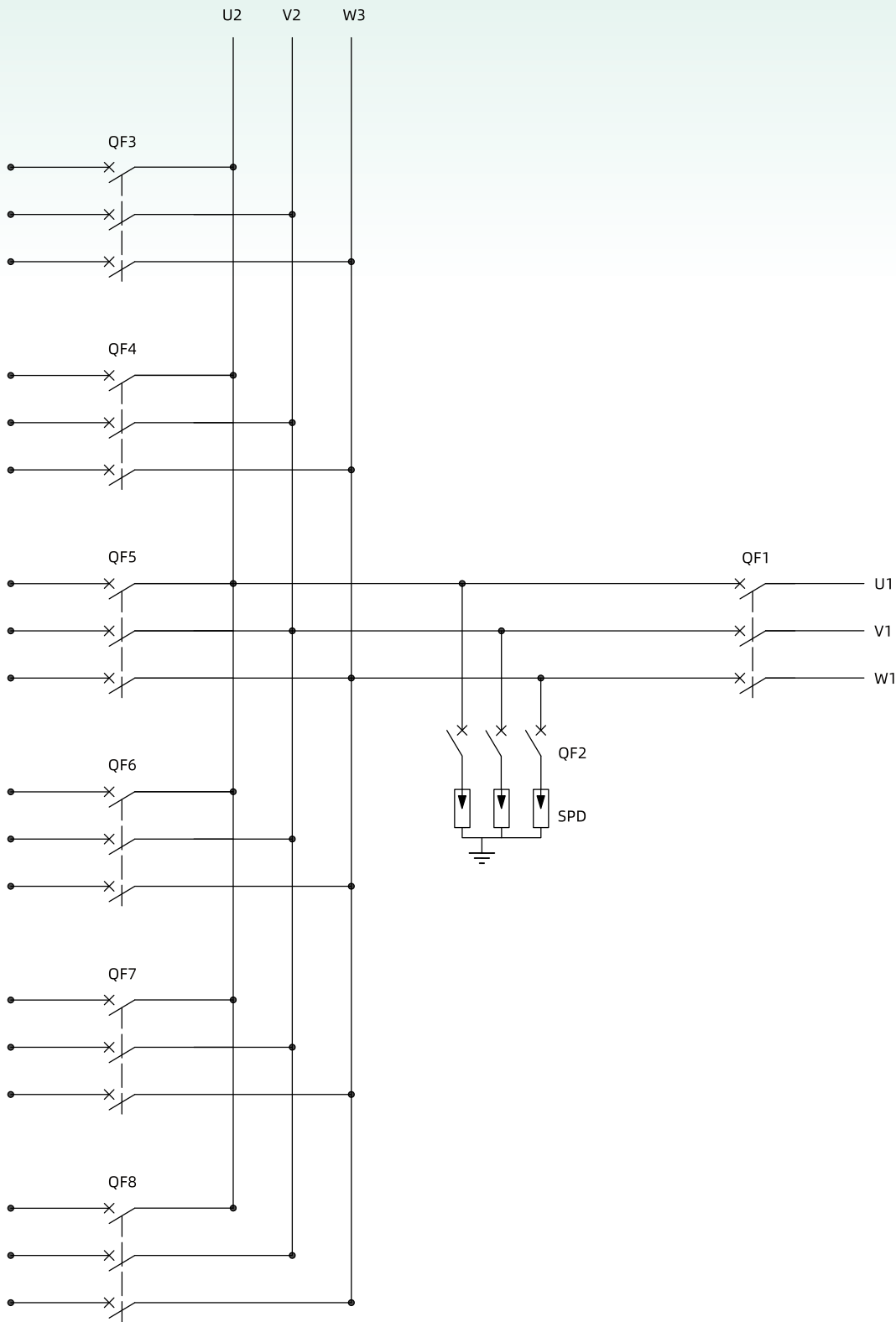


产品概述 Product Overview

SPPVNAC-N6/400交流汇流箱适用于集团电力系统。是承担串联逆变、交流配电的重要组成部分柜或升压变压器并接入最多四组光伏组逆变器。进线与断路器的输入线和输出线相连接断路器或负载隔离开关。母线具有两级防雷保护。系统最高额定电压为AC690V。IP65防护等级与逆变器相同。安装在室外。具有防水、防尘、防紫外线、防盐雾腐蚀等功能。汇流箱大大简化了串联逆变器与交流配电柜或升压变压器之间的连接。简单明了内部结构合理布线，可靠性高，维护简单。户外壁挂式可以适应恶劣的环境。除了材质和尺寸之外，还可以根据用户要求定制。

SPPVNAC-N6/400 AC combiner box is applicable to the group on power system. It is an important part to undertake series inverter and AC power distribution cabinet or a step-up transformer and access up to four sets of photovoltaic group on inverter. Into line with the input of circuit breaker and output line with circuit breaker or the load isolating switch. Bus bar with two levels of lightning protection. Highest rated system voltage is AC690V. IP65 Protection class same as inverter. Installed outdoor. With waterproof, dustproof, anti UV, anti salt spray corrosion, etc. function. The combiner box greatly simplifies the connection between series inverter and AC power distribution cabinet or boost transformer. Simple and clear internal structure make reasonable wiring, High reliability and simple maintenance. Outdoor wall mounted can adapt to the harsh environment. In addition to the material and size, it can be customized according to user requirements.

接线示意图 Schematic Diagram



规格参数 Specification

SPPVNAC-N6/400	
输入回路数 Number of input strings	6
输出路数 Number of output strings	1或客选* 1 or customized*
适用电路 Applicable circuit	三相四线/三相五线 Three-phase four-wire/three-phase five-wire
熔丝额定电流 Fuse rated current	100A/250A/400A
额定工作电压 Rated working voltage	400V
单回路输入/输出电流地 (36KW逆变器) Single circuit input/output current ground (36KW inverter)	80A/500A
单回路输入/输出电流地 (50KW逆变器) Single circuit input/output current ground (50KW inverter)	100A/630A
单回路输入/输出电流地 (60KW逆变器) Single circuit input/output current ground (60KW inverter)	125A/630A
单回路输入/输出电流地 (80KW逆变器) Single circuit input/output current ground (80KW inverter)	160A/800A
进线极限分断能力 Incoming line limit breaking capacity	35KV ~ 70KA (400V)
出线极限分断能力 Outgoing line limit breaking capacity	35KV ~ 70KA (400V)
交流防雷放电电流 AC lightning protection discharge current	In:20KA, Imax:40KA, Up:≤1.5KV
短路保护 Short circuit protection	有 Yes
监控及通讯 Monitoring and communication	客户可选择定制 Could be customized
温湿度 Temperature and humidity	环境温度: -10℃ ~ +40℃, 存储温度: -25℃ ~ +50℃。湿度: 0 ~ 95%无凝露, 无腐蚀性场所 Operating Temperature: -10℃ ~ +40℃, storage temperature: -25℃ ~ +50℃. Humidity: 0~95%, no condensation, no corrosive places
海拔 Altitude	≤2000m (大于2000m必须说明, 最高可达≤3000m) ≤2000m (more than 2000m must be specified, up to ≤3000m)
耐盐度 Salinity tolerance	按客户要求定制断路器和配件处理以适用客户要求 Customize circuit breakers and other accessories to suit customer requirements

规格参数 Specification

SPPVNAC-N6/400	
汇流母排 Busbar	大截面镀镍紫铜排搭接 Large cross-section nickel-plated copper bar overlap
防护 Protection	PC绝缘罩板（耐温性：-40℃~+120℃） PC insulation cover (temperature resistance: -40℃~+120℃)
电气间隙 Electrical clearance	≥14mm
爬电距离 Creepage distance	≥25mm
绝缘电阻 Insulation resistance	> 20mΩ
工频耐压 Power frequency withstand voltage	AC2200V/1min
材质 Material	304不锈钢/Q235冷轧钢板/镀锌板 304 stainless steel/Q235 cold rolled steel plate/galvanized plate
体积（宽×高×深）（mm） Minimum size (Width × High × Depth) (mm)	1350×960×320
重量Kg Weight Kg	45 ~ 80
可选功能 Optional features	1.每路进线（电流、电压、功率、电能）测量，总出线（电流、电压、功率、电能）测量 2.防雷器状态采集，进线断路器状态采集，出线断路器状态采集，箱内温度、湿度采集 3.过、欠压保护 4.断路器远程合闸、分闸 1. Measure each incoming line (current, voltage, power, electric energy) and the total outgoing line (current, voltage, power, electric energy). 2. Collection of lightning protector status, incoming circuit breaker status collection, outgoing circuit breaker status collection, and box temperature and humidity collection. 3. Over and under voltage protection. 4. Remote closing and opening of circuit breaker

说明：

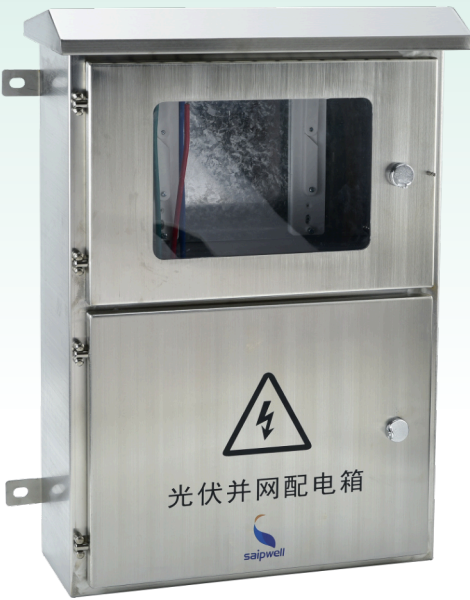
1.加 “*” 并注明 “客选” 项，可根据客户提供的参数要求定制。

2.箱体尺寸也可由客户指定或按需设计。

Notes:

1. With "*" and indicate the "Customized" option, which can be customized according to the parameter requirements provided by the customer.

2. The size of the cabinet can also be specified by the customer or designed on demand.



型号 Model
SPPGC-5KNB/10KNB

产品概述 Product Overview

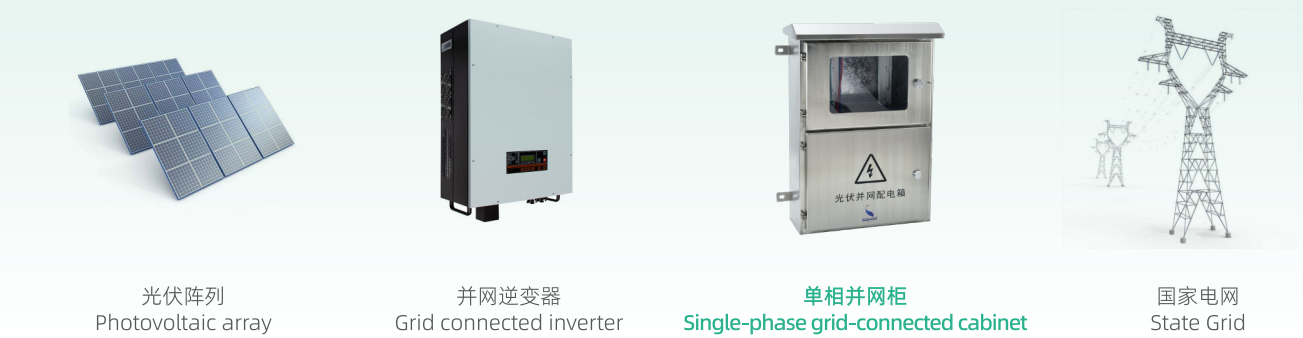
该产品主要应用于光伏分布式并网发电系统，串联在并网逆变器和电网之间。 产品具有电网低电压、电网过电压、输入雷击等一系列保护保护、系统过流、电网隔离等。准确的电能计量、输电和智能运行控制是家庭电网的重要组成部分连接的发电系统。 产品已通过3C认证、CE认证、ISO9001质量管理体系认证等。

预留计量表和采集器的安装位置；计量表可视窗及铅封（防窃电）； 产品一体化设计理念， 配电部分完全与计量部分隔离， 减少电磁干扰； 多种自复式过压欠压保护器及专用重合闸可选配光伏断路器， 满足使用要求不同地区的验收标准； 柜盖需要专业钥匙才能打开， 实现专业管理； 塑料喷漆柜和不锈钢柜可选； 室外安装， 使用更安全； 支持特殊需求和功能定制。

This product is mainly used in photovoltaic distributed grid-connected power generation system, which is connected in series between grid-connected inverter and grid. The product has a series of protections such as grid low voltage, grid overvoltage, input lightning protection, system overcurrent, grid isolation, etc. Accurate electric energy metering, transmission and intelligent operation control are essential parts of household grid-connected power generation system. The product has passed CCC certification, CE certification, ISO9001 quality management system certification, etc.

Reserve the installation position of metering meter and collector; Visual window and lead seal of metering meter (anti-electricity stealing); The integrated design concept of the product, the power distribution part is completelyisolated from the metering part, and the electromagnetic interference is reduced;A variety of self-compound overvoltage and undervoltage protectors and special reclosing circuit breakers for photovoltaics can be selected to meet the use requirements and acceptance standards of different regions; The cabinet cover needs a professional key to open and realize professional management;Plastic spray cabinet and stainless steel cabinet are optional; Outdoor installation, safer use; Support special requirements and function customization.

产品概述 Product Overview

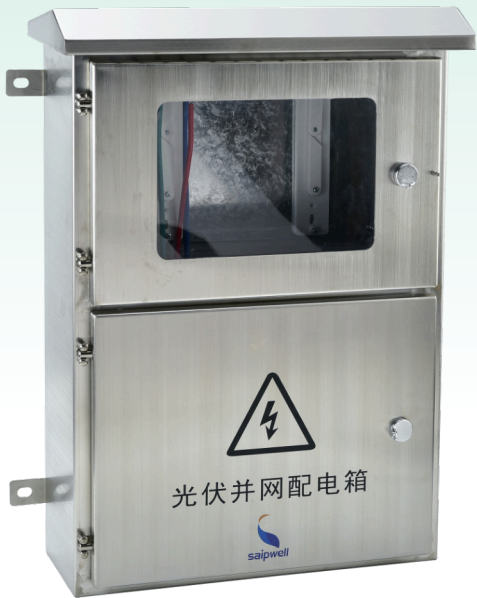


规格参数 Specification

	SPGC-5KNB	SPGC-10KNB
电气参数 Electric parameter		
配套逆变电源 Matching inverter power	3KW、5KW	8KW、2 x 5KW
逆变器输入通道数 Number of inverter input channels	1通道 1-channel	1通道/2通道 1-channel / 2-channel
并网输出通道 Grid-connected output channels	1通道 1-channel	
并网要求 Grid connection requirement	单相并网 Single-phase grid-connected	
电网电压 Grid voltage	220Vac	
开关容量 Switching capacity	32A	63A
保护功能 Protective function		
短路保护 Short circuit protection	是 Yes	
防雷保护 Lightning protection	有 (标称电流: In: 20KA, Imax: 40KA, Up≤4KV) Yes (nominal current: In: 20KA, Imax: 40KA, Up≤4KV)	
隔离保护 (可视断点) Isolation protection (visual breakpoint)	是 (断路器/手拉式隔离开关) Yes (breaker/hand-pulled disconnecter)	
过压、欠压保护 Overvoltage and undervoltage protection	是 Yes	
自动重合闸 Auto-reclosing	是 Yes	

规格参数 Specification

	SPGC-5KNB	SPGC-10KNB
并网开关 Grid-connected switch		
自复位过压、欠压保护器 Self resetting overvoltage and undervoltage protector	1、当电网被切断或偏置电压大于20%时，会自动断开（内部断开）； 2、当电网恢复正常时，自动合闸（内接）； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically disconnect (internal disconnection); 2. When the power grid returns to normal, it will automatically close (internal connection);	
光伏专用重合闸断路器 Special photovoltaic reclosing circuit breaker	1、当电网断电或偏置电压大于20%时，自动断电制动（操作手柄动作）； 2、当电网恢复正常时，自动开机（操作手柄）； 3、手动运行和自动运行可切换： 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatic breakbrake (operation handle action); 2. When the power grid returns to normal, it will automatically switch on (operating the handle); 3. Manual operation and automatic operation can be switched:	
塑壳重合闸 Molded case reclosing	1、当电网被切断或偏置电压大于20%时，会自动跳闸（延时脱扣时间0～10S可调）； 2、当电网恢复正常时，自动切换； 3、手动操作和自动操作可切换； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically trip (the delay tripping time is adjustable from 0 to 0~10S); 2. When the power grid returns to normal, automatic switching; 3. Manual operation and automatic operation can be switched;	
环境适用性 Environmental applicability		
温度和湿度 Temperature and humidity	工作温度：-25 至 +60℃ Operating temperature: -25 to +60℃ 储存温度：-40 至 +70° CStorage temperature: -40 to +70℃ 湿度：0-90%，无凝结 Humidity: 0-90% without condensation. 无腐蚀性气体的场所（如有请注明） Places without corrosive gas (if any, please specify)	
使用海拔高度 Use altitude	≤3000M	
耐盐雾性 Salt sprav resistance	盐雾测试标准为336小时 Salt spray test is standard for 336 hours	
常规参数 Conventional parameters		
材料 Material	不锈钢、冷轧板喷塑、不锈钢喷塑 Stainless steel, cold-rolled sheet spray molding, stainless steel spray molding	
防护等级 the protection grades	室外IP55 Outdoor IP55	
盒式 Box type	双门带计量仓（配送仓、计量仓） Double doors with meter positions (distribution warehouse and metering warehouse)	
安装方式 Installation mode	壁挂式 Wall mounting type	
箱体尺寸（长×宽×高） Box size (length x width x height)	610mm x 430mm x 150mm	
参考重量 Reference weight	10Kg	



型号 Model

SPC5-15KN3P/30KN3P

产品概述 Product Overview

该产品主要应用于光伏分布式并网发电系统，串联在并网逆变器和电网之间。产品具有电网低电压、电网过电压、输入雷击等一系列保护保护、系统过流、电网隔离等。准确的电能计量、输电和智能运行控制是家庭电网的重要组成部分连接的发电系统。产品已通过3C认证、CE认证、ISO9001质量管理体系认证等。

预留计量表和采集器的安装位置；计量表可视窗及铅封（防窃电）；产品一体化设计理念，配电部分完全与计量部分隔离，减少电磁干扰；多种自复式过压欠压保护器及专用重合闸可选配光伏断路器，满足使用要求不同地区的验收标准；柜盖需要专业钥匙才能打开，实现专业管理；塑料喷漆柜和不锈钢柜可选；室外安装，使用更安全；支持特殊需求和功能定制。

This product is mainly used in photovoltaic distributed grid-connected power generation system, which is connected in series between grid-connected inverter and grid. The product has a series of protections such as grid low voltage, grid overvoltage, input lightning protection, system overcurrent, grid isolation, etc. Accurate electric energy metering, transmission and intelligent operation control are essential parts of household grid-connected power generation system. The product has passed CCC certification, CE certification, ISO9001 quality management system certification, etc.

Reserve the installation position of metering meter and collector;Visual window and lead seal of metering meter (anti-electricity stealing);The integrated design concept of the product, the power distribution part is completelyisolated from the metering part, and the electromagnetic interference is reduced;A variety of self-compound overvoltage and undervoltage protectors and special reclosing circuit breakers for photovoltaics can be selected to meet the use requirements and acceptance standards of different regions; The cabinet cover needs a professional key to open and realize professional management;Plastic spray cabinet and stainless steel cabinet are optional;Outdoor installation, safer use;Support special requirements and function customization.

产品概述 Product Overview



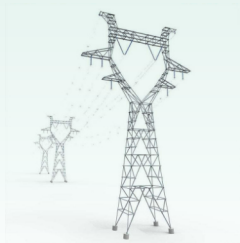
光伏阵列
Photovoltaic array



并网逆变器
Grid connected inverter



三相并网柜
Three-phase grid-connected cabinet



国家电网
State Grid

规格参数 Specification

	SPC5-15KN3P	SPC20-30KN3P
电气参数 Electric parameter		
配套逆变电源 Matching inverter power	5KW、10KW、15KW	5KW、10KW、15KW
逆变器输入通道数 Number of inverter input channels	1通道 1-channel / 2通道 2-channel	
并网输出通道 Grid-connected output channels	1通道 1-channel	
并网要求 Grid connection requirement	三相并网 Three-phase grid-connected	
电网电压 Grid voltage	380Vac	
开关容量 Switching capacity	32A	63A
保护功能 Protective function		
短路保护 Short circuit protection	是 Yes	
防雷保护 Lightning protection	有（标称电流：In：20KA，Imax：40KA，Up≤4KV） Yes (nominal current: In: 20KA, Imax: 40KA, Up≤4KV)	
隔离保护（可视断点） Isolation protection (visual breakpoint)	是（断路器/手拉式隔离开关） Yes (breaker/hand-pulled disconnecter)	
过压、欠压保护 Overvoltage and undervoltage protection	是 Yes	
自动重合闸 Auto-reclosing	是 Yes	

规格参数 Specification

SPC5-15KN3P		SPC20-30KN3P	
并网开关 Grid-connected switch			
自复位过压、欠压保护器 Self resetting overvoltage and undervoltage protector		1、当电网被切断或偏置电压大于20%时，会自动断开（内部断开）； 2、当电网恢复正常时，自动合闸（内接）； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically disconnect (internal disconnection); 2. When the power grid returns to normal, it will automatically close (internal connection);	
光伏专用重合闸断路器 Special photovoltaic reclosing circuit breaker		1、当电网断电或偏置电压大于20%时，自动断电制动（操作手柄动作）； 2、当电网恢复正常时，自动开机（操作手柄）； 3、手动运行和自动运行可切换： 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatic breakbrake (operation handle action); 2. When the power grid returns to normal, it will automatically switch on (operating the handle); 3. Manual operation and automatic operation can be switched:	
塑壳重合闸 Molded case reclosing		1、当电网被切断或偏置电压大于20%时，会自动跳闸（延时脱扣时间0～10S可调）； 2、当电网恢复正常时，自动切换； 3、手动操作和自动操作可切换； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically trip (the delay tripping time is adjustable from 0 to 0~10S); 2. When the power grid returns to normal, automatic switching; 3. Manual operation and automatic operation can be switched;	
环境适用性 Environmental applicability			
温度和湿度 Temperature and humidity		工作温度：-25 至 +60℃ Operating temperature: -25 to +60℃ 储存温度：-40 至 +70° CStorage temperature: -40 to +70℃ 湿度：0-90%，无凝结 Humidity: 0-90% without condensation. 无腐蚀性气体的场所（如有请注明） Places without corrosive gas (if any, please specify)	
使用海拔高度 Use altitude		≤3000M	
耐盐雾性 Salt sprav resistance		盐雾测试标准为336小时 Salt spray test is standard for 336 hours	
常规参数 Conventional parameters			
材料 Material		不锈钢、冷轧板喷塑、不锈钢喷塑 Stainless steel, cold-rolled sheet spray molding, stainless steel spray molding	
防护等级 the protection grades		室外IP55 Outdoor IP55	
盒式 Box type		双门带计量仓（配送仓、计量仓） Double doors with meter positions (distribution warehouse and metering warehouse)	
安装方式 Installation mode		壁挂式 Wall mounting type	
箱体尺寸（长×宽×高） Box size (length x width x height)		770mm x 550mm x 150mm	
参考重量 Reference weight		18Kg	



型号 Model
SPC100-500KN3P

产品概述 Product Overview

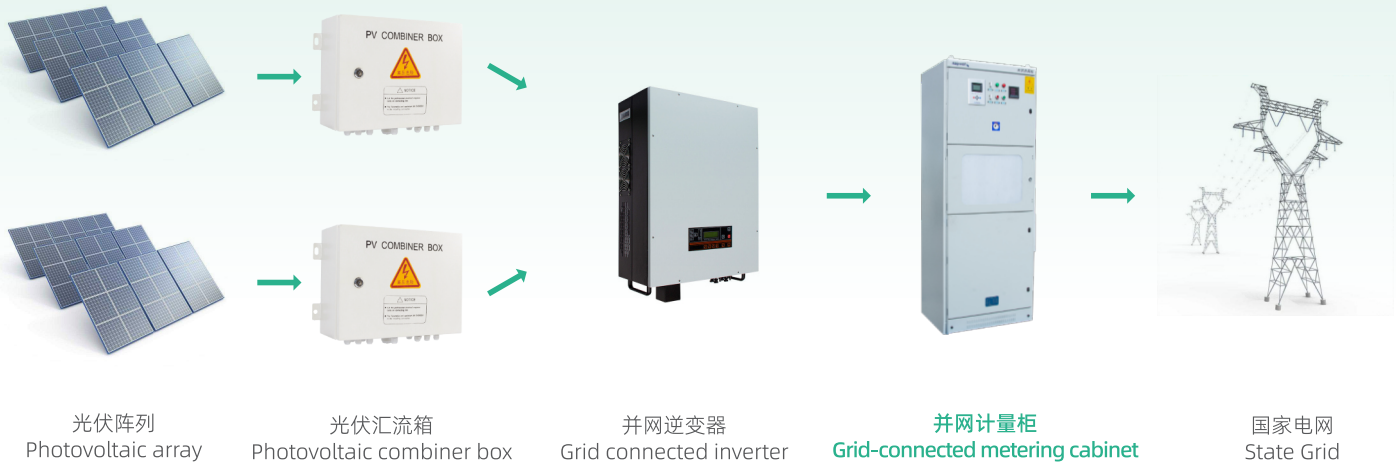
该产品主要应用于光伏分布式并网发电系统，串联在并网逆变器和电网之间。 产品具有电网低电压、电网过电压、输入雷击等一系列保护保护、系统过流、电网隔离等。准确的电能计量、输电和智能运行控制是家庭电网的重要组成部分连接的发电系统。 产品已通过3C认证、CE认证、ISO9001质量管理体系认证等。

预留计量表和采集器的安装位置；计量表可视窗及铅封（防窃电）； 产品一体化设计理念， 配电部分完全与计量部分隔离， 减少电磁干扰； 多种自复式过压欠压保护器及专用重合闸可选配光伏断路器， 满足使用要求不同地区的验收标准； 柜盖需要专业钥匙才能打开， 实现专业管理； 塑料喷漆柜和不锈钢柜可选； 室外安装， 使用更安全； 支持特殊需求和功能定制。

This product is mainly used in photovoltaic distributed grid-connected power generation system, which is connected in series between grid-connected inverter and grid. The product has a series of protections such as grid low voltage, grid overvoltage, input lightning protection, system overcurrent, grid isolation, etc. Accurate electric energy metering, transmission and intelligent operation control are essential parts of household grid-connected power generation system. The product has passed CCC certification, CE certification, ISO9001 quality management system certification, etc.

Reserve the installation position of metering meter and collector;Visual window and lead seal of metering meter (anti-electricity stealing);The integrated design concept of the product, the power distribution part is completelyisolated from the metering part, and the electromagnetic interference is reduced;A variety of self-compound overvoltage and undervoltage protectors and special reclosing circuit breakers for photovoltaics can be selected to meet the use requirements and acceptance standards of different regions; The cabinet cover needs a professional key to open and realize professional management;Plastic spray cabinet and stainless steel cabinet are optional;Outdoor installation, safer use;Support special requirements and function customization.

产品概述 Product Overview

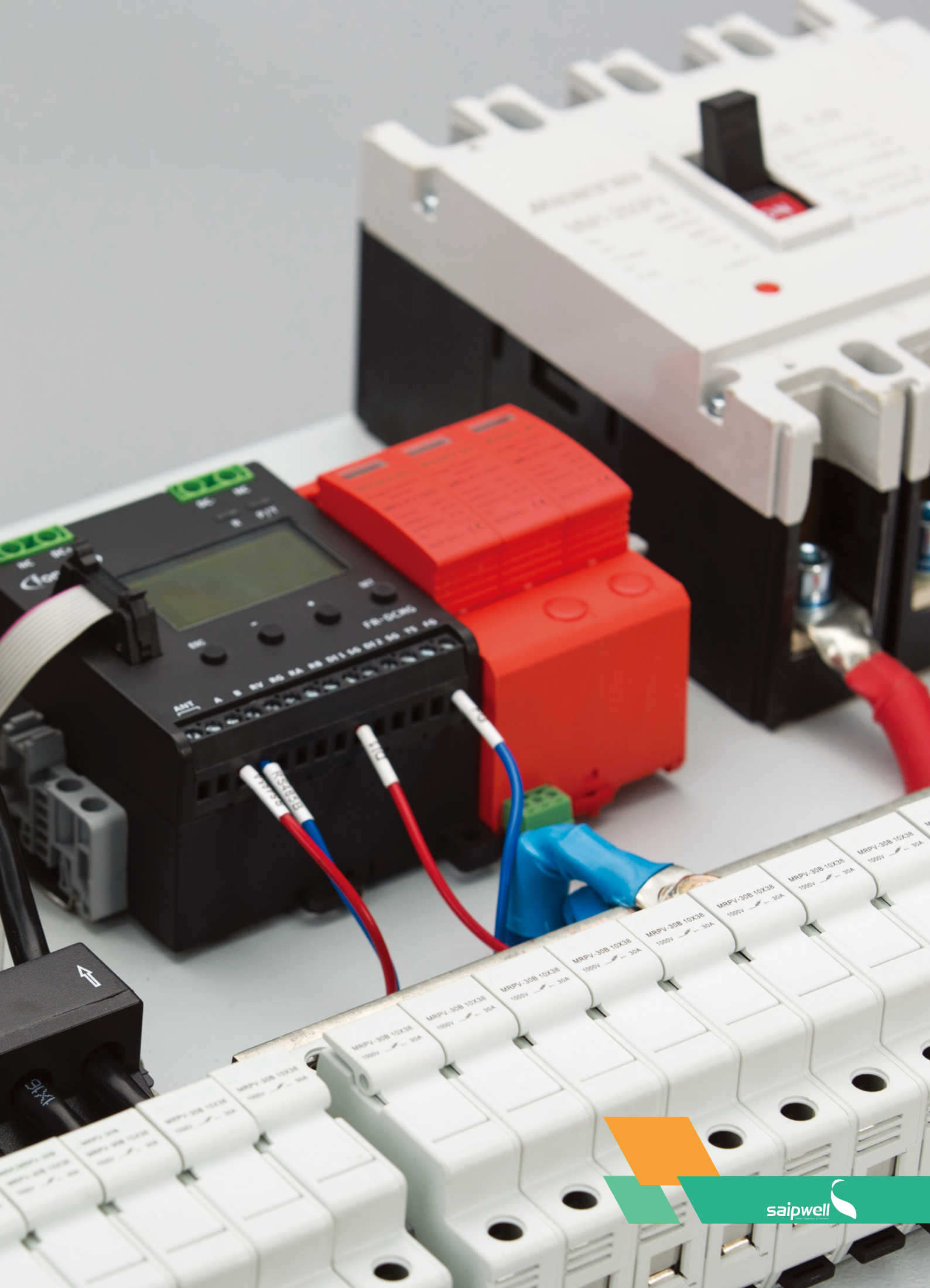


规格参数 Specification

SPC100-500KN3P	
电气参数 Electric parameter	
普通系列逆变电源 Common series inverter power	5KW、10KW、15KW、20KW、25KW、30KW、40KW、50KW、60KW
逆变器输入通道数 Number of inverter input channels	1路~8路（建议搭配交流接线柜） 1-channel ~ 8-channel (it is recommended to match the AC junction cabinet)
并网输出通道 Grid-connected output channels	1通道 1-channel
并网要求 Grid connection requirement	三相并网 Three-phase grid-connected
电网电压 Grid voltage	380Vac
开关品牌（可选） Switch brand (optional)	德力西，正泰，ABB,施耐德 Delixi, Chint, ABB, Schneider
保护功能 Protective function	
短路保护 Short circuit protection	是 Yes
防雷保护 Lightning protection	有（标称电流：In: 20KA, Imax: 40KA, Ups4KV） Yes (nominal current: In: 20KA, Imax: 40KA, Ups4KV)
隔离保护（可视断点） Isolation protection (visual breakpoint)	是（断路器/手拉式隔离开关） Yes (breaker/hand-pulled disconnecter)
过压、欠压保护 Overvoltage and undervoltage protection	是 Yes
自动重合闸 Auto-reclosing	是 Yes
面板手动开启和关闭 Manual switch-on and switch-off of panel	是 Yes
自动重合闸 Auto-reclosinga	1、电能质量在线监测； 1. Online power quality monitor; 2、海岛保护装置； 2. Island protection device: 3、故障脱扣装置； 3. Fault release device;

规格参数 Specification

SPC100-500KN3P	
并网开关 Grid-connected switch	
剩余电流保护器 Residual current protector	1、当电网断电或偏置电压大于20%时，自动断电制动； 2、当电网恢复正常时，自动开机； 3、手动操作和自动操作可切换； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically break-brake; 2. When the power grid returns to normal, it will automatically switching on; 3. Manual operation and automatic operation can be switched;
塑壳重合闸 Molded case reclosing	1、当电网被切断或偏置电压大于20%时，会自动跳闸（延时脱扣时间从0~10S可调）； 2、当电网恢复正常时，自动切换； 3、手动运行和自动运行可切换； 1. When the power grid is cut off or the bias voltage is greater than 20%, it will automatically trip (the delay tripping time is adjustable from 0 to 0~10S); 2. When the power grid returns to normal, automatic switching; 3. Manual operation and automatic operation can be switched;
环境适用性 Environmental applicability	
温度和湿度 Temperature and humidity	工作温度：-25 至 +60℃ Operating temperature: -25 to +60℃ 储存温度：-40 至 +70° CStorage temperature: -40 to +70℃ 湿度：0-90%，无凝结 Humidity: 0-90% without condensation. 无腐蚀性气体的场所（如有请注明） Places without corrosive gas (if any, please specify)
使用海拔高度 Use altitude	≤3000M
耐盐雾性 Salt sprav resistance	盐雾测试标准为336小时 Salt spray test is standard for 336 hours
常规参数 Conventional parameters	
柜体材质 Cabinet material	冷轧板喷塑、不锈钢 Cold rolled sheet spray molding, stainless steel
使用地点 Place of use	室内型（室外型可定制） Indoor type (outdoor type can be customized)
柜式 Cabinet type	配电仓库、计量仓库、变压器仓库、隔离开关仓库 Distribution warehouse, metering warehouse, transformer warehouse and isolating switch warehouse
安装方式 Installation mode	垂直 Vertical
柜体尺寸（长×宽×高） Cabinet size (length x width x height)	600mm x 800mm x 2200mm
参考重量 Reference weight	需要决定或解决 Need to be decided or settled



DC MINIATURE CIRCUIT BREAKER 直流微型断路器



型号 Model SP-B2-63DC

产品特点 Features of Products

- 过载及短路保护功能
- 额定短路分断能力高达6kA
- 无极性和极性均可
- 额定电流高达 63A
- 额定电压高达1200V
- 专为光伏、储能和其他直流应用而设计
- AS 60947.3:2018 和 IEC60947.1:2015 标准
- 提供 2 年保修、产品保险和召回保险
- Overload and the short circuit protection function
- Rated short circuit breaking capacity up to 6kA
- Non-polarity and Polarity both available
- Rated Current In up to 63A
- Rated Voltage up to 1200V
- Designed for PV, energy storage and other DC applications
- AS 60947.3:2018 and IEC60947.1:2015 standard
- 2 years warranty, product insurance, and recall insurance available

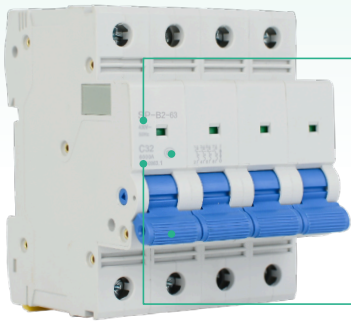
产品概述 Product Overview

断路器具有短路保护、过载保护等功能保护、控制、隔离等。适用于终端电源配电、土木建筑、能源控制、通信和基础设施建筑领域。

The circuit breaker has the functions of short circuit protection, overload protection, control, isolation and so on. It is suitable for terminal power distribution, civil construction, energy control, communication, and infrastructure construction fields.



外观介绍 Appearance Introduction



额定电压
Rated voltage

标准
Standard

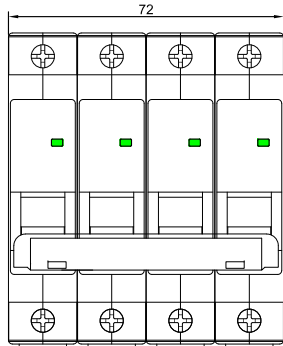
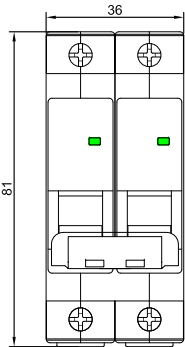
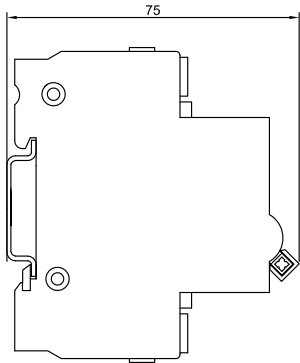
分断能力
Breaking Capacity

额定电流
Rated current

SP B2 - 63 D C / □ □ / □ □
1 2 3 4 5 6 7 8

代码 Code	名称 Name	描述 Description
1	品牌 brand	Saipwell
2	帧电流 Frame Current	63A
3	直流 DC	D
4	脱扣曲线 Tripping curve	B C
5	额定电流 Rated current	6:6A 10:10A 32:32A 16:16A 40:40A 20:20A 50:50A 25:25A 63:63A
6	极数 Poles	2P 4P
7	电压 Voltage	550V; 1000V

尺寸 Dimension (mm)



规格参数 Specification

SP-B2-63DC	
额定绝缘电压 (Ui) Rated Insulation Voltage (Ui)	1250V
额定工作电压 (Ue) Rated operating voltage (Ue)	DC (2P) :550V ; DC (4P) :1000V
壳架额定电流 Frame rated current	63A
相同壳架的不同电流In Different currents for the same frame In	6A、10A、16A、20A、25A、32A、40A、50A、63A
额定运行短路分断能力Ics=Icu Rated operating short circuit breaking capacity Ics=Icu	6kA
机械寿命 Mechanical life	20000次
电气寿命 Electrical life	1000次 (其他电压规格)
额定冲击耐受电压Uimp Rated impulse withstand voltage Uimp	6kA
脱扣特性/脱扣类型 Trip characteristics/trip type	B/C; 热磁式
过电压等级 Overvoltage level	III
符合标准 Standards	IEC 60947-2 GB/T 14048.2
使用环境温度 Use ambient temperature	-30℃ ~ 70℃
存储环境温度 Storage environment temperature	-40℃ ~ 85℃
海拔 Altitude	≤2000m
重量 Weight	0.12kg/P
附件 Appendix	OF/SD/MX/MN/MX+OF
MX控制电压Us MX Control voltage Us	DC:12V , 24V ,220V ; AC110V , 220V , 380V 电源功率建议不低于75W
MN额定电压Un MN rated voltage Un	AC220V AC380V



外观介绍 Appearance Introduction



SPV 1 PV - 32 B

代码 Code	名称 Name	描述 Description
1	品牌 brand	Saipwell
2	光伏型 Photo voltaic type	PV
3	额定电流 Rated Current	32:32A
4	基础 Base	B

型号 Model

SPV-16X & SPV-32X

产品特点 Features of Products

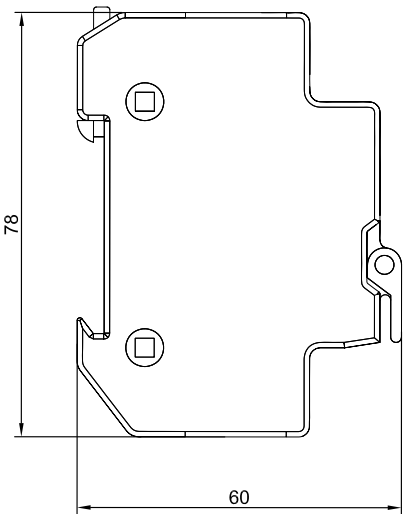
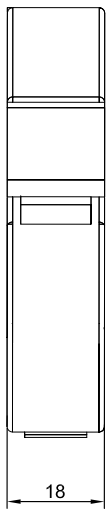
- Din35导轨安装，安装方便
- 可调节接线端子，接线牢固
- 阻燃外壳，耐高温
- 安装灵活、更换方便
- Din35 Rail Installation, easy to Install
- Adjustable terminal block, wiring firm
- Fire-retardant shell, high temperature resistance
- Flexible installation, easy to replace

产品概述 Product Overview

SPV-16X 和 SPV-32X 系列保险丝座和保险丝是由耐火材料制成材料，符合 EN/IEC 60947-3 & 60269-6 标准。这最大额定电压1500V，最大电流32A。 作为短篇电路和过流保护器，广泛应用于高低压配电系统、控制系统、配电等电气设备箱和逆变器。

SPV-16X & SPV-32X series Fuse Holder and Fuse is made of refractory material, which meets the standard of EN/IEC 60947-3 & 60269-6. The maximum rated voltage is 1500V and the maximum current is 32A. As a short circuit and over-current protector, it is widely used in the high and low voltage distribution system, control system, and electrical equipment, like distribution box and inverter.

尺寸 Dimension (mm)



规格参数 Specification

PV DC SP-32B 保险丝座极柱 Fuse Holder Pole	1P		
根据 According to EN60947-2, AS/NZS IEC 60947.2:2015			
根据 According to	IEC60947-3		
电气特性 Electrical Characteristics		控制与指示 Contol and Indication	
额定工作电压 Rated Working Voltage	1000V DC	运行状态/故障指示 Operating State/Fault Indication	指示灯关闭/指示灯开启 Indicator Light OFF/Indicator Light ON
额定电流 Rated Current	30A	连接与安装电线 Connection and InstallationWire	2.5mm ² -6mm ²
分断能力 Breaking Capacity	20KA	端子螺丝 Terminal Screws	M3.5
最大功耗 Max Power Dissipation	3W	扭矩 Torque	2.5
		防护等级 Degree of Protection	IP20
		安装环境 Installation Environment	
		保险丝尺寸 Fuse Size	10 x 38mm
		工作温度范围 Operating Temperature Range	-30°C ~ 70°C
		用于安装于 For Mounting On	TH35-7.5/DIN353
		污染程度 Pollution Degree	20°C ≤95% , 40°C≤50%
		相对湿度重量 Relative HumidityWeight	0.07kg 每极 Per pole
		安装等级 Installation Class	III
光伏直流SPV-30熔断器 PV DC SPV-30 Fuse	IEC 60269-6		
额定工作电压 Rated Working Voltage	1000VDC	10 x 38mm	
额定电流 Rated Current	1A,2A,4A,6A,8A,10A,15A,20A,25A,30A,32A		



型号 Model

SP-40D2

产品特点 Features of Products

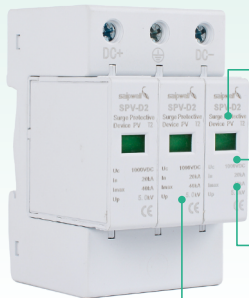
- 光伏用2型电涌保护器
 - 最大电流：40kA
 - 无漏电、无工作电流
 - 符合 EN/IEC 61643-31
 - TÜV 和 CE 认证
 - 远程信号（可选）
- Type 2 Surge Protector for Photovoltaic
 - Imax:40kA
 - No leakage, no operating currents
 - EN/IEC 61643-31 compliance
 - TÜV and CE approved
 - Remote signal (optional)

产品概述 Product Overview

SP-40D2系列浪涌保护器具有可靠的电压保护水平超强的浪涌泄放能力和安全过载能力，用于光伏发电系统的防雷。该产品是配备高能mov芯片，因此当系统因过压而雷击或其他原因，可以将电压引入大地纳秒级响应速度，从而保护设备。

SP-40D2 series surge protective devices have reliable voltage protection level super surge discharge capacity and safety overload capacity, which are used for lightning protection of photovoltaic power generation system. The product is equipped with high-energy mov chip, so when the system has overvoltage due to lightning stroke or other reasons, it can introduce the voltage into the earth with nanosecond response speed, so as to protect the equipment.

外观介绍 Appearance Introduction



类型
Type

最大工作电压
Maximum operating voltage

标称放电电流
Nominal discharge current

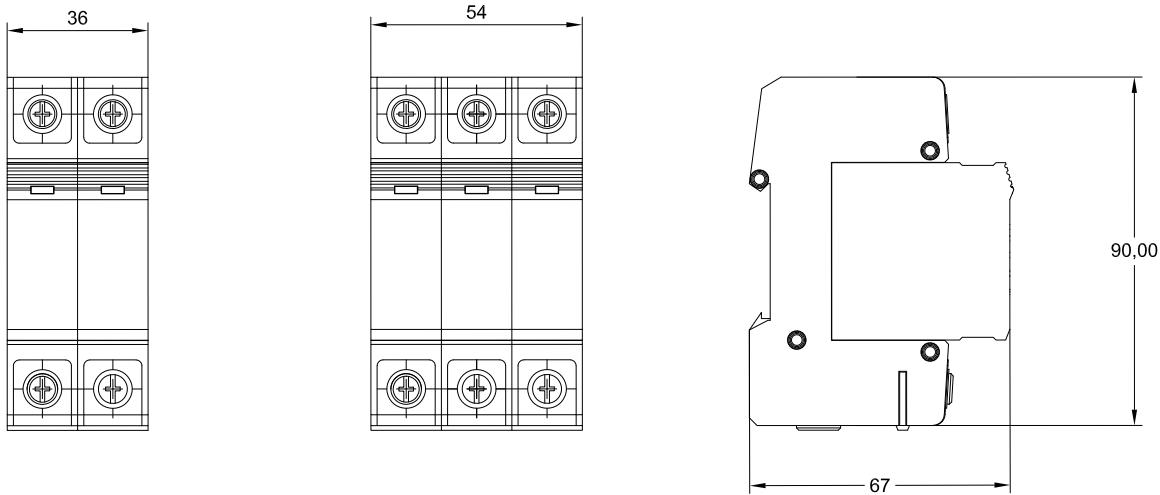
PV(Icpv)

SP 1	40 2	-	D 3	2 4
代码 Code	名称 Name	描述 Description		
1	品牌 brand	Saipwell		
2	壳架 Shell frame	40		
3	直流 DC	D		
4	类型 Type	2: Type 2		

规格参数 Specification

型号 Model	SP-40/G500	SP-40/G1000	SP-40/G1500
最高持续运行电压 (Ucpv) Maximum continuous operating voltage (Ucpv)	500 VDC	1000 VDC	1500 VDC
标称放电电流 (In) (8/20μs) Nominal discharge current (In) (8/20μs)	20 KA		
最大放电电流 (Imax) (8/20μs) Maximum discharge current (Imax) (8/20μs)	40 KA		
保护水平 (In) Up protection level (In) Up	2.5 KV	3.5 KV	5.5 KV
工作温度 Operating temperature	-40°C ~ +85°C		
相对湿度 Relative humidity	≤95% (25°C)		
安装方式 Installation method	35mm 标准导轨 Standard guide rail		
窗口指示 Window indication	正常时: 绿色 ; 失效时: 红色 Normal: green; failed: red		

尺寸 Dimension (mm)



型号 Model

SPM3Z

产品特点 Features of Products

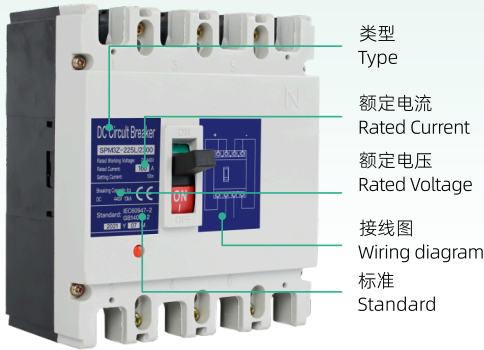
- 分断能力高，绝缘可靠
 - 过载保护和短路保护
 - 频率操作和隔离
 - 额定电压1000-1500VDC
 - 额定电流
100A.125A.160A.200A.250A.315A.350A.400A.500A.630A
- High Breaking Capacity, reliable insulating
 - Over load protection and short-circuit protection
 - Frequency operating and isolating
 - Rated voltage 1000-1500 VDC
 - Rated Current
100A.125A.160A.200A.250A.315A.350A.400A.500A.630A

产品概述 Product Overview

SPM3Z系列光伏直流塑壳断路器在保护电网中的应用电池系统和储能系统，具有过载和短路保护电路保护。额定电压为250-1000 VDC。额定电流高达630A。确保包括蓄电池在内的太阳能光伏系统运行良好、高效率。IP66 和抗紫外线 PC 外壳是可选的。

SPM3Z series PV DC moulded case circuit breaker application in protecting the battery systems and energy storage systems, with over load protection and short circuit protection. Rated voltage is 250-1000 VDC. Rated current up to 630A. Ensure the solar PV systems including batteries operate well and efficiently. IP66 and UV resistance PC enclosure is optional.

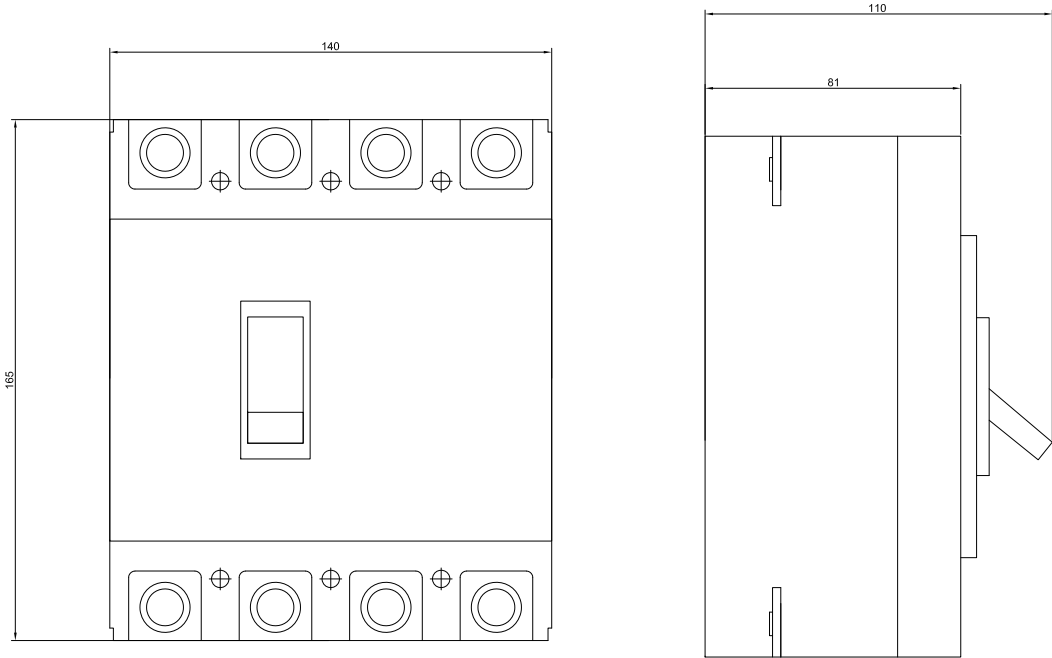
外观介绍 Appearance Introduction



SP 1 M3 2 Z 3 - 250 4 /2 300 5

代码 Code	名称 Name	描述 Description
1	品牌 brand	Saipwell
2	塑壳断路器 Moulded Case Circuit Breaker	M3
3	直流 DC	Z
4	额定电流 Rated current	250:125,160,180,200,225,250 400:250,315,320,350,400 630:400,500,630
5	极数和电压 Poles & Voltage	2:2P 4:4P

尺寸 Dimension (mm)



规格参数 Specification

型号 Model	SPM3Z-250		SPM3Z-400	SPM3Z-630
壳架等级额定电流 Inm（A） Frame grade rated current Inm (A)	250		400	630
额定电流Inm（A） Rated current Inm (A)	125,160,180,200,225,250		250,315,320,350,400	400,500,630
极数 Pole	2	4	4	4
额定工作电压 Ue(V)DC Rated operating voltage Ue(V)DC	1000	1500	1500	1500
额定绝缘电压 Ui(V) Rated insulation voltage Ui(V)	1000	1500	1500	1500
额定冲击耐压 Uimp(kV) Rated impact withstand voltage Uimp(kV)	12			
极限短路分断能力 Icu(kA) Ultimate short circuit breaking capacity Icu(kA)	10			
运行短路分断能力 Ics(kA) Operating short-circuit breaking capacity Ics(kA)	10			
接线方式 Wiring	上进下出 Out and in		下进下出 In and out	下进下出 In and out
机械寿命（总次数） Mechanical life (total times)	10000			
电气寿命（总次数） Electrical life (total times)	2000			
总分断时间（ms） Total breaking time (ms)	20			
是否具有隔离特性 Does it have isolation properties?	是 Yes			
标准 Standard	IEC 60947-2、GB/T 14048.2			
允许环境温度 Allowable ambient temperature	-40 ~ +70℃			
防护等级 Protection level	IP20			
质量认证 Quality Certification	CCC、CE、CB、TüV 证书			
可带附件 Accessories available	辅助、报警、分励、手操、电操 Auxiliary, alarm, shunt excitation, manual operation, electric operation			
飞弧距离（mm） Flashover distance (mm)	≥ 50（带飞弧罩后零飞弧）（Zero arcing after equipped with arcing cover）			
瞬时动作值 Instantaneous action value	10 In			
外形尺寸 Dimensions (L×W×H)（mm）	180x76x126（2P） 180x107x126（3P）	258x200x107		280x280x115.5
安装方式 Installation method	固定式、插入式 Fixed, plug-in			



型号 Model
SPN4-002GL

产品特点 Features of Products

- 任意角度安装均可达到IP67防水等级
 - 抗UV及V阻燃材料
 - 触点镀银，银层厚度达到行业最高标准
 - 燃弧时间 3 毫秒
 - 呼吸阀安装在隔离器底部
 - 无极性
 - 可锁定在关闭位置
 - AS 60947.3:2018 和 IC 60947.1:2015 标准
 - 提供 5 年保修、产品保险和召回保险
- Installed at any angle can achieve IP67 waterproof level
 - UV resistance and V flame retardant material
 - Contact silver plating, silver layer thickness to the industry's highest standards
 - Arcing Time in 3ms
 - Breather valve attached on the bottom of the isolator
 - No Polarity
 - Lockable at OFF position
 - AS 60947.3:2018 and IC 60947.1:2015 standard
 - 5 years warranty, product insurance, and recall insurance available

产品概述 Product Overview

SPN4-002GL系列隔离开关适用于额定额定值的电力系统电压 DC 1 500V 及以下，额定电流 50A 及以下。该产品可以是有用于不频繁开关机，可断开1~4路MPPT特别适用于高压直流输电线路的隔离输配电系统，如切断高压直流太阳能电池板和逆变器之间的电流。

SPN4-002GL series isolation switch is suitable for a power system with rated voltage DC 1 500V or below and rated current 50A or below. The product can be used for infrequent switching-on and switching-off and can disconnect 1~4 MPPT lines at the same time.It is especially suitable for isolating lines in HVDC transmission and distribution systems, such as cutting off the high voltage direct current between solar panels and inverters.

外观介绍 Appearance Introduction



SP 1 D 2 S 3 4 5 / 6 7 / 8 9 - 10

代码 Code	名称 Name	描述 Description
1	品牌 brand	Saipwell
2	直流 DC	D
3	隔离开关 Isolation Switch	S
4	系列 Series	1：系列1 1:Series 1
5	安装类型 Mounting Type	B: 导轨安装 B:Rail Installation PM: 面板安装 PM:Panel Mounting DC: 门联锁 DC:Door interlock EL: 外壳盒 EL:Enclosure box
6	电压 Voltage	N:1000VDC S:1200VDC
7	Ith	32:32A
8	极数 Pole	2:2P 8:8P 3:3P 2H/3H/4H 4:4P 4T/4B/4S 6:6P
9	可锁定/解锁 Lockable/Unlock	R: 可锁定 R:lockable 无: 可解锁 Nil:unlockable
10	旋钮类型 Konb Type	RY: 红/黄 RY:red/yellow 黑白: 黑/白 BW:black/white BD: 蓝色/DIN导轨 BD:blue/din-rail BU: 黑色/可解锁 BU:black/unlockable

规格参数 Specification

300V	600V	800V	1000V	极数 Pole	弦数 No.of Strings	零件号 Part Number
数据符合 Data according to IC/EN60947-3:2009+A1+A2, AS60947.3, 使用类别 Utilization category DC-PV1, DC-PV2						
Pv1	Pv2	Pv1	Pv2	Pv1	Pv2	
32	32	32	32	32	16	16 9 2 1 SP-DW32/4N-32-2
32	32	32	32	32	16	16 9 4 2 SP-DW32/4N-32-4
32	32	32	32	32	32	32 32 4 1 SP-DW32/4N-32-4S
32	32	32	32	32	32	32 32 4 1 SP-DW32/4N-32-4B
32	32	32	32	32	32	32 32 4 1 SP-DW32/4N-32-4T

规格参数 Specification

主要参数 Main Parameters		SPN4-002GL	
数据符合 Data according to IC/EN60947-3:2009+A1+A2, AS60947.3, 使用类别 Utilization category DC-PV1, DC-PV2			
额定绝缘电压 Rated Insulation Voltage	Ui	V	1500
额定热电流 Rated thermal current	Ith	A	32
额定冲击耐受电压 Rated impulse withstand voltage	Uimp	V	8000
额定短路接通能力 Rated short-circuit making capacity	Icw	A	1000
最大电缆横截面积（包括跳线） Maximum cable cross sections(incl. jumper)			
实心或标准 Solid or standard		mm ²	4-16
灵活的 Flexible		mm ²	4-10
柔性（+多芯电缆端） Flexible(+multicore cable end)		mm ²	4-10
扭矩 Torque			
端子螺钉 M4 的拧紧扭矩 Tightening torque terminal screws M4		Nm	1.2-1.8
外壳安装螺钉ST4.2（304不锈钢）拧紧扭矩 Tightening torque shell mounting screws ST4.2(304 stainless steel)		Nm	1.5-2.0
拧紧扭矩旋钮螺钉 M3 Tightening torque knob screws M3		Nm	0.5-0.7
打开或关闭扭矩 Switching on or off Torque		Nm	0.9-1.3
底座接线扭矩 The wiring Torque on Base		Nm	1.1-1.4
一般参数 General parameters			
旋钮位置 Knob Positions			9 小时关闭, 12 小时开启, 3 小时开启 OFF at 9 hr, ON at 12 hr, ON at 3hr
机械寿命 Mechanical life			1000
直流极数 Number of DC poles			2或4（6,8可选） 2 or 4(6,8 optional)
工作温度 Operation temperature		℃	-40 至 +85 -40 to +85
储存温度 Storage temperature		℃	-40 至 +85 -40 to +85
污染程度 Pollution degree			2
过电压类别 Overvoltage category			III
轴和安装的 IP 等级 IP rating of shafte and mounting nul			IP66

数据根据 Data According To AS60947-3:2018

主要联系 Main Contacts		类型 Type	EDS2N-32	附录 Appendix B5
额定热电流 Rated thermal current	Ithe	A	32	制作 Making &
额定绝缘电压 Rated insulation voltage	Ui	V	1000	打破 Breaking
触点距离（每极） Distance of contacts(per pole)		mm	8	5x
额定工作电流Ie(DC-PV2) Rated operational current Ie(DC-PV2)				运营 operations
1极 1 pole 1	300V	A	25	100
	400V	A	10	40
	500V	A	8	32
	600V	A	8	32
	800V	A	3	12
	1000V	A	2	8
4极 4-pole 2极串联 2 pole in series 4	500V	A	32	
	600V	A	13	
	700V	A	9	
	800V	A	9	
	900V	A	9	
	1000V	A	9	36
2极 2-pole 4极串联 4 pole in series 2H	500V	A	40	
	600V	A	/	
	700V	A	/	
	800V	A	/	
	900V	A	/	
	1000V	A	/	/
2极 2-pole 4极串联 4 pole in series 4B	500V	A	32	
	600V	A	32	
	700V	A	32	
	800V	A	32	
	900V	A	32	
	1000V	A	32	128



型号 Model

SML05/08/10/15/20/25

产品特点 Features of Products

- 三个LED全面显示蓄电池的不同充电状态；
 - 切断负载前的声音预警提示；
 - PWM脉冲宽度调节(串接调节方式)；
 - 三阶段充电方式，强充-均衡充-浮充；
 - 12V或24V自动识别；
 - 内置温度补偿；
 - 大口径接线端子(最大为16平方毫米)；
 - SOC和电压，不同的蓄电池放电保护模式；
 - 全电子保护
- Three LEDs comprehensively display the different charging states of the battery;
 - Sound warning prompt before cutting off the load;
 - PWM pulse width adjustment (serial connection adjustment mode);
 - Three-stage charging method, strong charge-balanced charge-floating charge;
 - 12V or 24V automatic identification;
 - Built-in temperature compensation;
 - Large-diameter terminals (up to 16 mm²);
 - SOC and voltage, different battery discharge protection modes;
 - full electronic protection

产品概述 Product Overview

SML系列产品是新一代多功能低成本的太阳充放电控制器。其电子线路配备了性能优良的单片机微处理芯 片，具有高效率充电、三个LED全功能显示及蜂鸣器声音预警等功能。即使在恶劣的环境条件下，SML也 可在长期、安全及低成本地维护蓄电池组的正常运转。SML系列控制器带自动温度补偿的三阶段的充电方式(强充电-均衡充电-浮充电)，由脉冲宽度调节PWM，可应用于给全密封或不密封的铅酸蓄电池充电。新一代的SML，允许使用者选择，放电保护功能时由SOC控制还是低电压模式。三个LED可清晰地显示蓄电池的不同工作及充放电状态。作为业内同价位产品中的领先者，SML是第一款在切断负载前由蜂鸣器进行 低电压声音预警的控制器。

SML series products are a new generation of multi-functional and low-cost solar charge and discharge controllers. Its electronic circuit is equipped with a single-chip micro-processing chip with excellent performance, which has functions such as high-efficiency charging, three LED full-function display and buzzer sound warning. Even under harsh environmental conditions, SML can maintain the normal operation of battery packs in a long-term, safe and low-cost way. SML series controllers have a three-stage charging method (strong charging-balanced charging-floating charging) with automatic temperature compensation, and PWM is adjusted by pulse width, which can be applied to charging fully sealed or unsealed lead-acid batteries. The new generation of SML allows users to choose whether the discharge protection function is controlled by the SOC or the low voltage mode. Three LEDs can clearly display the different working and charging and discharging status of the battery. As the leader in the same price range of products in the industry, SML is the first controller with an audible low voltage warning by a buzzer before the load is cut off.

规格参数 Specification

型号 Model	SML05	SML08	SML10	SML15	SML20	SML25
最大太阳能板电流 Max. Module Current	5A	8A	10A	15A	20A	25A
最大负载电流 Max. Load Current	5A	8A	10A	15A	20A	25A
额定电压 System Voltage	12/24V				12V	
自消耗电流 Self Power Consumption	<4mA					
尺寸(长×宽×高) Dimensions(W×H×D)	80×100×32mm					
额定电压 Nominal Voltage	12/24V，自动识别Automatic Recognition					
强充电压 Boost Voltage	14.5/29.0V(25℃)，2小时 2H					
均衡充电电压 Equalization Voltage	14.8/29.6V(25℃)，2小时 2H					
浮充电压 Float Voltage	13.7/27.4V(25℃)					
负载低压切断电压 Low Voltage Disconnect Function	11.4~11.9/22.8~23.8V，蓄电池剩余容量控制；Controlled By State Of Charge 11.0/22.0V，电压控制Controlled By Voltage					
负载再连接电压 Load Reconnect Voltage	12.8/25.6V					
温度补偿系数 Temperature Compensation	-4mV/cell*K					
最大充电电流(50℃时) Max.Solar Panel Current	5/8/10/15/20A/25A，与型号有关 According to Model number					
最大负载电流(50℃时) Max.Load Current	5/8/10/15/20A/25A，与型号有关 According to Model number					
尺寸 Dimensions	120×90×50(宽×长×高)(W×H×D)					
重量 Weight	180克0.38Kg					
最大接线直径 Max.Wrie Size	24mm 2 (AWG#6)					
空载电流 Self Consumption	4毫安 4mA					
工作温度范围 Ambient Temperature Range	-40到+50℃ -40 to +50℃					
防护等级 Case Protection	IP22					