

This product selection manual is part of our company's products. For more detailed information, please contact us.
Due to continuous innovation of product technology, please refer to the actual product or the manual,
without prior notice.



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www.cncspv.com
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**SOLAR PHOTOVOLTAIC
COMPONENTS OEM
ACCPTABLE**

CHANGSONG ELECTRIC CO., LTD.



光伏领导者

www.cncspv.com
www.cncsgk.com





昌松 电气

坚持 努力 拼搏

公司简介 About us

昌松电气有限公司是一家研发、生产低压电气成套设备及电器元件的专业企业。公司自主研发生产了光伏专用断路器，光伏交直流汇流箱、配电柜、大型光伏并网柜以及并网箱以及光伏防雷等产品。可满足各种新能源并网配电使用，产品易于安装，可靠性强，资质齐全。

公司业务遍布全国各地，并且在广东，河北，山东，四川等地区设有门店与办事处，在网络各个平台也有直营店铺以及大量的代理商，并且已经进军海外市场。

Chang Song Electric Co., Ltd. founded in 1995, with more than 5000M2 manufacturing space, 160 employees, it becomes one of the leading manufacturer of industrial electric product in China. As well as one of the earliest factories in the line with nearly 20 years experience in producing and developing for electric equipment.


Chang Song has successfully developed and producing various categories in industrial electric and photovoltaic solar products which include: Combiner boxes, Grid-connected distribution boxes, Fuses, Reclosers, Knife switches, KBO, Circuit Breakers, Panel Boards, AC contactors, Meters, Relays Fuses, Control Units.. as well as many other electrical accessories such as Surge protection devices, Dual power automatic transfer switch

Chang Song owns modern R&D center for developing electric products with full-line of high-tech moulding, manufacturing equipment and great strength of technical support, besides advanced design forces powered by first class engineering teams with super industrial computer systems. Thus, each piece of the product is fully assured with top-reliable quality, scientific and novel design as well as excellent workmanship

Chang Song obtained ISO9001 quality system certification, ISO14001, OHSAS18001, CB certification, SEMKO and CE certification, etc. It is no doubt that the products are warmly welcomed not only in domestic but also in overseas market year after year

In order to keep the leadership in electrical industry, Chang Song continuously increase and update manufacturing facilities, keep improving techniques and adopting the most advanced inspect instrument to bring our products to an even higher quality level along with impeccable & rapidly delivery service.

ISO9001



质量管理体系认证证书

证书编号: 20216G10151R0S

兹证明
浙江昌松电气有限公司
 统一社会信用代码: 91330382568156884R

质量管理体系符合:
GB/T19001-2008 idt ISO9001:2008 标准

证书覆盖范围:
**小型断路器、漏电断路器、塑料外壳式断路器
 (CCC 许可范围内) 的生产和服务**

注册地址: 浙江省乐清市柳市镇后街工业区 邮编: 325604
 审核地址: 浙江省乐清市柳市镇新光工业区新光大道 170 号 邮编: 325604

本次颁证日期: 2016 年 12 月 13 日
 证书有效期至: 2018 年 09 月 14 日
 首次颁证日期: 2016 年 12 月 13 日

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浙江金品认证有限公司
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ISO14001



ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 20216E10002R0S

We hereby certify that the organization:
ZHEJIANG CHANGSONG ELECTRIC CO., LTD.
 Organization code: 56815688-4

is in conformity with Environmental Management System Standard:
GB/T24001-2004 idt ISO14001:2004

The certificate is valid to the following products/service:
**Related Management Activities and Production(CCC) of
 Switch-disconnectors, Miniature Circuit Breaker, Residual
 Current Operated Circuit Breaker, Moulded Case Circuit Breaker**

Registration Address: Houjie Industrial Zone, Liushi Town,
 Yueqing City, Zhejiang, China
 Audit Address: NO.170, Xingguang Street, Xingguang Industrial Zone,
 Liushi Town, Yueqing City, Zhejiang, China

Date of Issue: 2016-02-01
 Date of Expiry: 2019-01-31
 Date of Initial: 2016-02-01

浙江金品认证有限公司
 Http://www.qpc.org.cn E-mail: qpc@qpc.org.cn

OHSAS18001



OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 20216S10003R0S

We hereby certify that the organization:
ZHEJIANG CHANGSONG ELECTRIC CO., LTD.
 Organization code: 56815688-4

is in conformity with Occupational Health Safety Management System Standard:
GB/T28001-2011 idt OHSAS18001:2007

The certificate is valid to the following products/service:
**Related Management Activities and Production(CCC) of
 Switch-disconnectors, Miniature Circuit Breaker, Residual
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 Http://www.qpc.org.cn E-mail: qpc@qpc.org.cn

شهادة - Certificate - 證明書 - Сертификат



Certificate of Compliance

No. 0H140624 ICE191
 Test Report no. KM10201601130W/LVD

Certificate's Holder: Zhejiang Changsong Electric Co., Ltd,
 Houjie Industrial Zone, Liushi town, Yueqing,
 Zhejiang Province, P.R.China

Manufacturer: Zhejiang Changsong Electric Co., Ltd,
 No.170 Xingguang Street, Xingguang Industrial Zone,
 Liushi Town, Yueqing City

Certification ECM Mark: 

Product: Circuit Breaker
 Model(s): (see the following annex I)

Verification to: Standard: IEC 60898-1:2015, IEC 60898-2+A1:2003,
 IEC 60947-2:2016
 related to CE Directive(s):
 2014/35/EU (Low Voltage)

Remarks: The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certificate Mark of ECM in reference to the above listed Standard(s). The national Compliance Mark can be affixed on the product(s) accordingly to the ECM registration about its release and its use. Further information can be found at www.enfocem.it. The Certificate of Compliance can be checked for validity of www.enfocem.it. This verification doesn't imply assessment of the production of the product(s).

Additional Information: classification about the CE Marking:
 We attest that a TCF for the CE Marking process is in place. Whereas the Manufacturer is Responsible to start the CE Marking Certification procedure and to perform all the necessary activities, as required by the Directive before placing the CE Mark on the product(s).

Date of issue 24 August 2016 Expiry date 25 August 2021
 Chief Manager:  Deputy Manager: 

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直流电气系列

DC Electrical Components products



CSPVB光伏直流汇流箱
Photovoltaic DC Combiner Box

01-02



光伏直流小型断路器
Photovoltaic DC Miniature Circuit Breaker

03



光伏直流防雷保护器
Photovoltaic DC lightning protection Device

03



太阳能专用光伏防反二极管模块
PV Diode Module Series

04



太阳能光伏直流熔断器系列
DC Solar PV fuse Series

05



直流塑壳断路器
DC Moulded Case Circuit Breaker








06





















交流电气系列

AC Electrical components products

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DC Electrical Components products (直流电气系列)

CSPVB光伏直流汇流箱

Photovoltaic DC Combiner Box



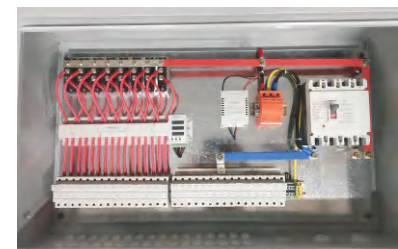
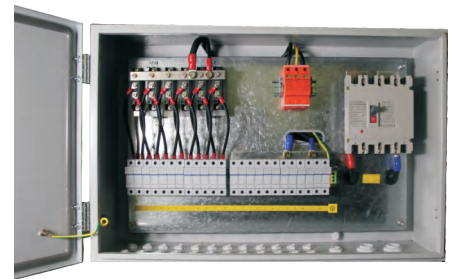
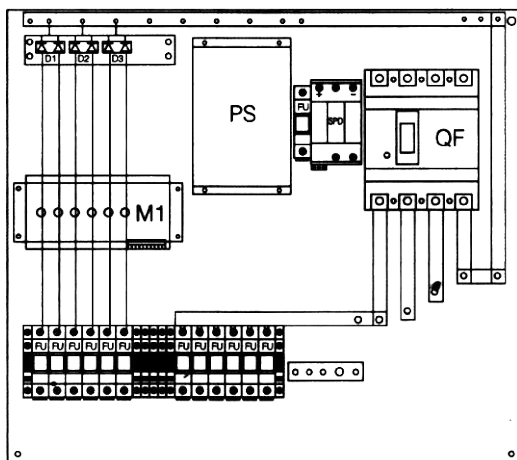
选用光伏专用交流浪涌保护器。
选用光伏专用交流断路器。额定电压可达DC1500V。

Use photovoltaic special DC surge protector.
The photovoltaic special DC circuit breaker is used, and the rated voltage can reach DC1500V.

强适应性 Strong adaptability

IP65防护等级。防水。防尘防紫外线。
严格的高低温测试。适用地区广。
安装简单。系统布线简化。方便接线。
箱体采用冷轧钢板等金属材料制作。

IP65 protection rating. waterproof. Dust and UV protection.
Strict high and low temperature testing. Applicable to a wide area.
easy installation. System wiring is simplified. Easy to wire.
The box is made of a metal material such as cold rolled steel.



智能型 (Smart)

概述 Overview

CSPVB防雷汇流箱是将2、3、4、5、6、8、10、12、14、16、18、20、24、30、36、48路光伏电池组件串的直流输入汇流合成1路输出，每路配熔断丝，输出配备防雷器和断路器。大大简化了直流配电柜及逆变器的输入接线。提供防雷保护，短路保护和接地保护。汇流箱分为智能和非智能两种类型。智能防雷汇流箱内部装有汇流监测单元。能监测每路光伏电池串输入的电流、汇总输出电压、箱体内的温度及防雷器状态、断路器状态等。并严格按照“光伏汇流设备技术规范”CGC/GF 037:2014的要求进行设计配置。为用户提供一个安全、简洁、美观适用的光伏系统产品。该产品采用户外壁挂式安装，能适应各种恶劣环境。除了相关核心元器件外，其他可按用户要求定制。

The CSPVB lightning protection combiner box combines the DC input and sink of 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 48 PV modules. Output, each fuse is equipped with a fuse, and the output is equipped with a lightning arrester and a circuit breaker.

The input wiring of the DC power distribution cabinet and the inverter is greatly simplified. Provide lightning protection, short circuit protection and grounding protection. The combiner box is divided into two types, intelligent and non-intelligent. The intelligent lightning protection combiner box is equipped with a sink monitoring unit. It can monitor the current input from each photovoltaic cell string, the summed output voltage, the temperature inside the box, the status of the lightning arrester, and the status of the circuit breaker. Design and configuration are strictly in accordance with the requirements of "Technical Specifications for Photovoltaic Confluence Equipment" CGC/GF 037:2014. Provide users with a security, concise, beautiful and suitable photovoltaic system products. The product is wall mounted and can be adapted to a variety of harsh environments. In addition to the relevant core components, other can be customized according to user requirements

CSPVB光伏直流汇流箱

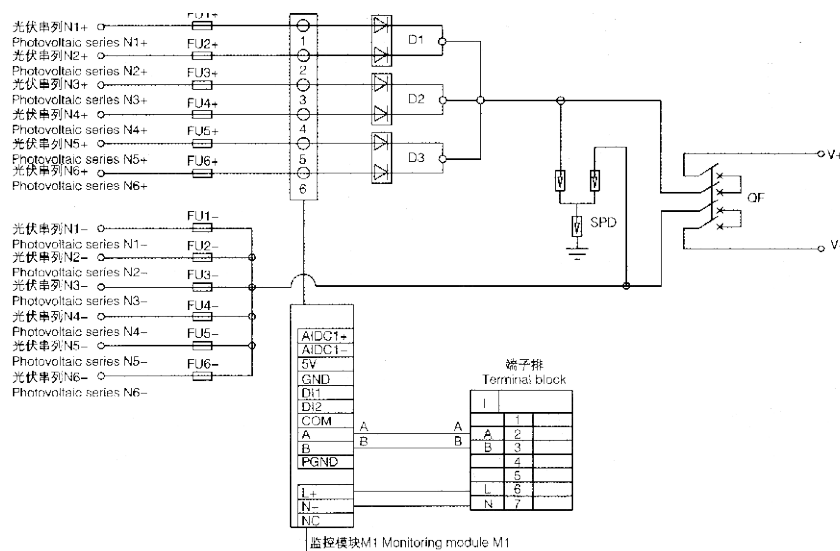
Photovoltaic DC Combiner Box



主要技术参数 The main technical parameters

名称 name	CSPVB	名称 name	CSPVB
电气参数 Electrical parameters		系统 System	
系统最大直流电压 System maximum DC voltage	1500V	防护等级 Protection level	IP65
每路最大输入电流 Maximum input current per channel	15A	输出开关 Output switch	直流断路器(标配)/ 直流旋转隔离开关(选配) DC circuit breaker(standard)/ DC rotary isolating switch(optional)
最大输入路数 Maximum number of input channels	1~48路	SMC4 防水接头 SMC4 waterproof connector	标配 Standard
最大输出开关电流 Maximum output switching current	800A	光伏直流熔断器 Photovoltaic DC fuse	标配 Standard
逆变器M PPT数量 Number of inverter M PPT	N	光伏直流浪涌保护器 Photovoltaic DC surge protector	标配 Standard
输出路数 Number of output channels	1	监测模块 Monitoring module	可选 Optional
防雷保护 Elghtning protection		防反二极管 Anti reverse diode	可选 Optional
试验类别 Test category	II 极保护	箱体材料 Box material	金属 Metal
标称放电电流 Nominal discharge current	20kA	安装方式 Installation method	壁挂式 Wall-mounted
最大放电电流 Maximum discharge current	40kA	工作温度 Operating temperature	-25°C~+55°C
电压保护水平 Voltage protection level	3.8kV	海拔高度 Altitude	2000米
最大持续工作电压 Maximum continuous operating voltage	1500V	允许相对湿度 Allow relative humidity	0~95%,无凝露 0-95%, nocondensation
极数 Number of poles	2/3/4		
结构特点 Structural features	插拔式模块 Pluggable module		

原理图 Schematic



太阳能专用光伏防反二极管模块

PV Diode Module Series



概述 Overview

太阳能专用光伏防反二极管模块产品特征防止光伏组件正负极反接,防止组串之间产生环流,提高发电效率关键元件采用碳化硅材料制作,比普通二极管功耗低15%以上

Product Description

Features

Monocrystalline silicon technology
High efficiency outdoor and indoor
Long life and stable output Sealed Package
High mechanical robustness

Advantages

One Product for Multiple Application
Flexible Integration into the Application

符号	参数	测试条件	结温 Tj(°C)	参数值			单位
				最小	典型	最大	
IF(AV)	正向平均电流	180°正弦半波, 50HZ 单面散热, IC=100°C	150			55	A
IF(RMS)	方均根电流		150			85	A
IF(VRRM)	反向重复峰值电流	VRRM tp=10ms VRSM-VRRM+200V	150	500		2500	V
IRRM	反向重复峰值电流	VRM=VRR	150			8	mA
IFSM	正向不重复浪涌电流	10ms 底宽, 正弦半波 VR=0.6VRRM	150			1.4	KA
I ² t	浪涌电流平方时间积					1.65	A ² S*10 ³
VFO	门槛电压		150			0.80	V
rF	斜率电阻					1.70	mΩ
VFM	正向峰值电压	IFM=270A	25			1.15	V
Rth(j-c)	热阻抗(结至壳)	180°正弦波, 单面散热				0.470	°C/W
Rth(o-h)	热阻抗(壳至散)	180°正弦波, 单面散热				0.2	°C/W
Viso	绝缘电压	50Hz,R.M.S.t=1min,Iso:1ma(max)		2500			V
FM	安装扭矩(M5)					4	N-m
	安装扭矩(M6)					6	N-m
Tstq	储存温度			-40		125	°C
Wt	质量					115	g
Outline	外形						



型号 Type	正向平均 电流 IF(AV)	反向重复 峰值电压 VRRM	通态峰值电压/电流 VFM@IFM		反向重复峰 值电 IRRM	正向电流 有效值 IF(RMS)	最高额定 结温 Tjm	绝缘电压 Viso	外型代号
	A	V	V	A	mA	A	°C	V(AC)	
CSK25A	25	600-3000	0.8	80	8	41	150	2500	101F
CSK55A	55	600-3000	0.8	170	8	86	150	2500	101F/201F
CSK70A	70	600-3000	0.8	270	8	110	150	2500	201F/201F-1
CSK90A	90	600-3000	0.8	270	8	141	150	2500	201F/201F-1
CSK110A	110	600-3000	1	330	8	173	150	2500	201F/201F-1
CSK130A	130	600-3000	1	410	12	212	150	2500	301F/201F
CSK160A	160	600-3000	1	480	12	251	150	2500	301F/201F
CSK200A	200	600-3000	1.1	600	12	314	150	2500	301F/401F1/402F-2
CSK250A	250	600-3000	1.1	750	20	393	150	2500	301F/401F1/402F-2
CSK300A	300	600-3000	1.1	900	20	471	150	2500	401F-2/401F-1/401F
CSK400A	400	600-5000	1.2	1000	40	640	150	2500	401F/401C
CSK500A	500	600-5000	1.2	1500	40	785	150	2500	401F/401C
CSK600A	600	600-5000	1.4	1800	40	920	150	2500	501F/501C
CSK800A	800	600-5000	1.4	2400	40	1256	150	2500	501F/501C
CSK1000A	1000	600-5000	1.4	3000	40	1570	150	2500	601F/502C
CSK1500A	1500	600-5000	1.4	4500	40	2355	150	2500	701F
CSK2000A	2000	600-5000	1.3	5000	50	3140	150	2500	701F
CSK3000A	3000	600-5000	1.3	5000	60	4710	150	2500	702F

光伏直流小型断路器 Photovoltaic DC Miniature Circuit Breaker

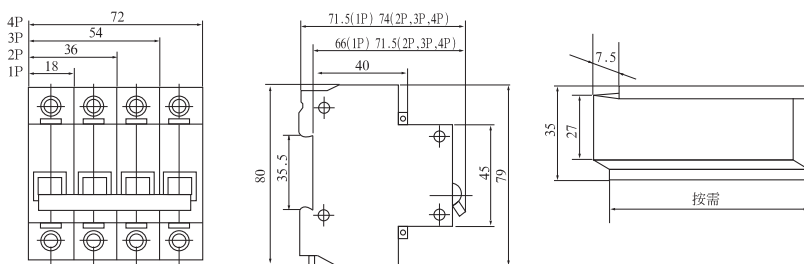


概述 Overview

CSB8光伏直流小型断路器适用于交流50-60HZ, 额定工作电压100-1500V及以下, 额定电流63A及以下的线路中, 用来对光伏直流系统组件及线路保护、电气设备进行过载、短路保护、也可在正常情况下, 作为线路不频繁的转换之用。该产品具有结构先进、性能可靠、分断能力高、外型美观小巧等特点, 壳体和部件采用耐冲击、高阻燃材料制成。

CSB8 photovoltaic DC miniature circuit breaker is suitable for AC 50-60HZ, rated working voltage 100-1500V and below, rated current 63A and below, used for overload and short circuit protection of PV DC system components and line protection, electrical equipment, It can also be used as an infrequent conversion of the line under normal conditions. The product has the characteristics of advanced structure, reliable performance, high breaking capacity and beautiful appearance. The shell and components are made of impact resistant and high flame retardant materials.

外形及安装尺寸 Shape and installation dimensions



光伏直流防雷保护器 Photovoltaic DC lightning protection Device

BDP光伏直流电源浪涌保护器是专门针对太阳能光伏发电系统的浪涌防护, 通断能力等级: 10KA15KA20KA40KA50KA60KA80KA100KA.

电压等级: DC250VDC500VDC750VDC100VDC1500V

可适用于不同电压的光伏发电系统直流保护系统。BDP系列产品与其他系列产品配合起, 可构成对太阳能光伏发电系统进行全面、完善的雷电防护系统。

BDP系列系列光伏发电直流系统电源浪涌保护器可用于雷击区域的更高界面, 根据通流量大小可为太阳能光伏发电系统提供I级粗保护和II级细保护。浪涌保护器安装的合适位置有: 光伏汇流箱、逆变器的直流输入端、各种直流电源系统的输入和输出侧。

Application:

BDP series surge protection is suitable for TN-S, TN-C-S, TT, IT etc power supply system of AC 50/60Hz, 380V and below, installed on the joint of LPZOA zone or LPZOB and LPZ1 zone, which protects the electric network not shocked by the thunder and lightning, it's design is according to GB18802.1, IEC61643-1.

Feature:

CSBDP series surge protection is suitable for B grade lightning proof, installed on the joint of LPZOA zone or LPZOB and LPZ1 zone, which protects the electric network not shocked by thr thunder or surge over voltage. LY1-B100, LY1-B80 are usually installed in low voltage main distribution box connected to the incoming end of the building.



太阳能光伏直流熔断器系列

DC Solar PV fuse Series



概述 Overview

SYPV系列熔断器主要用于太阳能光伏发电直流汇流箱中，对可能产生的太阳能的电池板光伏组件及逆变器的电流反馈所产生的线路过载和短路电流进行分断，从而起到保护太阳能光伏组件板之用，熔断器也可选配在其他任何直流电路中作为电器元件的线路过载和短路保护之用。

使用环境

周围空气温度上限值不超过+90℃，空气温度下限制不低于-40℃；

安装地点海拔不超过3000m；

最高温度为+40℃时，空气的相对湿度不超过50%，在较低的温度下可以允许有效高的温度。例如：+25℃时可达90%。对由于温度变化偶尔产生的凝露应采取特殊措施；在无爆炸危险的介质中，且介质无足以腐蚀金属和破坏绝缘的气体 and 导电尘埃的地方；污染等级3；

符合标准GB 13539.1-2008《低压熔断器 第1部分：基本要求》

符合标准GB 13539.2-2008《低压熔断器 第2部分：专职人员使用的熔断器的补充要求》

符合标准GB 60269.1-2006《低压熔断器 第1部分：一般要求》

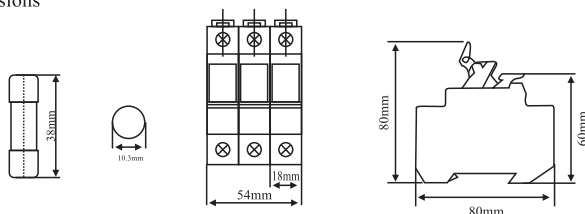
符合标准GB 60269.2-2010《低压熔断器 第2部分：指定人员使用的熔断器(主要是工业用熔断器)的补充要求》

主要技术参数

SYPV series fuses are mainly used in solar photovoltaic power generation DC combiner boxes to protect the line overload and short-circuit current generated by the current feedback of solar panels and inverters of solar panels. For solar photovoltaic module boards, fuses can also be used in any other DC circuit for line overload and short circuit protection of electrical components.

Type	SYPV-30
Fuse size	10 x 38MM
Poles	1P
Rated voltage	DC 1000V
Rated current	1,2,3,4,5,6,8,10,12,15,20,25,30A
Short-circuit breaking capacity	33KA
Max power attenuation	3.5W
Protection grade	IP20
Connection	2.5-10mm ²
Operation ambient temperature	-30~+70℃
Resistance and damp hot	Class 2
Elevation	≤2000
Installation way	TH35-7.5/DIN35 Rail installation
RH(relative air humidity)	when +20 °C,not exceed 95%;when +40 °C,not exceed 50%
Pollution class	3
Installation environment	the place of no obvious vibrat & impact
Installation class	III
WxHxL	W18 x H89 x L90mm
Weight(kg)	0.07

Dimensions



直流塑壳断路器

DC Moulded Case Circuit Breaker



概述 Overview

CSM1DC系列塑料外壳式断路器是我公司在对光伏直流电力系统的需求进行认真分析研究的基础上设计出来的，吸收同类产品的优点，总结联合设计产品的经验，充分考虑设计的整体运行要求，以及操作人员的安全方便，设计力求合理，并且考虑设备完整通用性。

CSM1 series plastic case circuit breaker is designed on the basis of careful analysis and research on the demand of power system. It absorbs the advantages of similar products, summarizes the experience of joint design products, and fully considers the overall operation requirements of the design. The operator is safe and convenient, the design is reasonable, and the complete versatility of the equipment is considered.



用途及适用范围

CSM1DC塑料外壳式断路器适用于光伏发电直流系统 储能系统及基站 风力等直流系统，额定工作电压DC1500V以下，额定电流从1-2000A。在正常情况下，可分别作为电路的不频繁转换及线路的短路保护 过载保护应用。

本断路器可垂直安装，亦可水平安装。

The CSM1 series plastic case circuit breaker has a rated insulation voltage of 800V and is suitable for AC 50Hz, rated working power below 690V, and rated current from 6A to 2000A. Circuit breakers are generally used for power distribution and can also be used for motor protection. Under normal circumstances, it can be used as an infrequent conversion of the circuit and an infrequent start of the motor. Protection in the distribution network for distributing electrical energy and when overloading, shorting and undervoltage of electrical equipment in the circuit. The circuit breaker for protecting the motor is used as a break in starting and running of the motor in the power distribution network and as an overload, short circuit and pin under voltage protection of the motor. The circuit breaker can realize the protection service between the upper and lower levels, and has three-stage protection function.

The circuit breaker cannot be inverted into the line, that is, only the power lines can be connected to 1, 2, and 3, and the load lines can be connected to 2, 4, and 6.

The circuit breaker can be installed vertically (ie, vertically) or horizontally (ie horizontally).

The circuit breaker has an isolation function and its corresponding compliance is

分类

按电压等级：DC250V DC500V DC750V DC1000V DC1500V

按额定电流(A)分：

CSM1-63为(6)、10、16、20、25、32、40、50、63A九级(6A规格无过载保护)；

CSM1-100为(10)、16、20、25、32、40、50、63、80、100十级；

CSM1-225为100、125、140、160、180、200、225七级；

CSM1-400为225、250、315、350、400五级；

CSM1-630为400、500、630三级；

CSM1-800为630、700、800A三级；

CSM1-1250为630、700、800、1000、1250五级；

CSM1-1600为1000、1250、1600三级；

CSM1-2000为1600、1800、2000三级

按飞弧距离分为短飞弧和零飞弧(用W表示)；

按接线方式分为板前接线、板后接线、插入式；

按过电流脱扣器型式分电磁(瞬时)型、热力电磁(复式)型、智能型。

断路器适用工作环境

安装地点的海拔高度不超过2000m；

周围空气温度不高于+40℃，不低于-5℃；

在无爆炸危险的介质中，且介质无足以腐蚀金属和破坏绝缘和导电尘埃的地方；

无雨雪袭的地方；

污染等级3；

安装类别III



AC Electrical components products (交流电气系列)

光伏并网箱

PV Grid-Connected Cabinet



概述 Overview

光伏并网箱，并网柜，广泛适应于分布式屋顶发电、地面电站、工商业屋顶、渔光互补、农光互补，品种齐全。适应于各种新能源发电并网、光伏发电、风力发电，符合国家并网标准。

规格齐全可按要求定制

功率从单相2KW到三相1MW

结构紧凑，外形美观，耐腐蚀

具有漏电保护，过载保护，短路保护，缺相保护，浪涌保护，最大程度保护人身安全。

具有自动重合闸功能及远程控制功能大大减少了工作人员的工作成本

并网柜具有防孤岛，过欠压保护，检有压合闸，失压跳闸功能

并网柜采用汇流加并网的一体化设计大大降低了成本

光伏并网配电箱 材质 及内部配置可根据当地并网要求定制化生产

This series of PVB is widely used for distributed rooftop generation, ground-based power station, the rooftop of industry and commerce, fishery and agriculture.

Furthermore, it is applied to new energy paralleling generation, photovoltaic and wind power generation.

It is usually applied in the distributed photovoltaic grid-connected system. Working power is between 2KW in single-phase system and 1MW in three-phase system

Function:

Lighting protection, short circuit protection, overcurrent protection, earth leakage protection and anti-islanding.

Tripping if no voltage and closing if recovery automatically.

Characteristics:

PA66 and transparent polyethylene carbon material are used, which makes it very convenient to look over the condition of operation without touching the box.

Protection grade reaches IP54, which means can prevent our products from dust and water.

It can be reclosed automatically and controlled remotely to reduce the operation cost of workers.

To reduce the manufacturing cost, the cabinet is designed integrally.

Compact structure

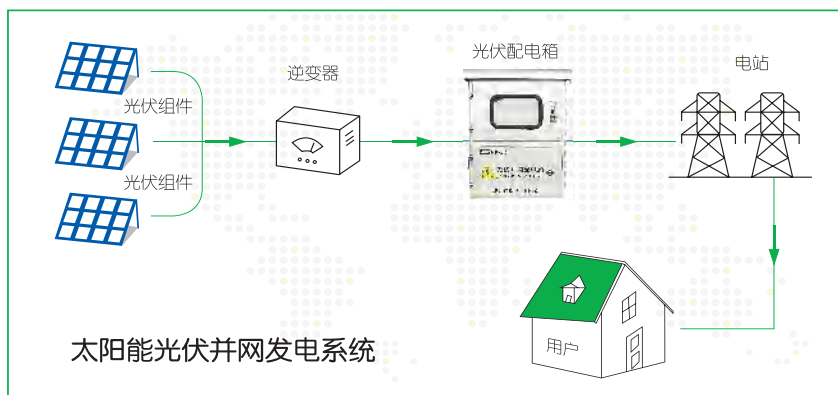
Nice appearance

Anti-corrosion

Customized due to the complete specifications

Standards:

It meets the state grid standards.



CSJXF 交流汇流箱 AC Combiner Box



高可靠性 High reliability

选用光伏专用交流浪涌保护器。
选用光伏专用交流断路器。额定电压可达AC690V。

Use photovoltaic special AC surge protector. The photovoltaic special AC circuit breaker is used, and the rated voltage can reach AC690V.

强适应性 Strong adaptability

Ip54防护等级。防水。防尘防紫外线。
严格的高低温测试。适用地区广。
安装简单。系统布线简化。方便接线。
箱体采用冷轧钢板等金属材料制作。

Ip65 protection rating. waterproof. Dust and UV protection. Strict high and low temperature testing. Applicable to a wide area. easy installation. System wiring is simplified. Easy to wire. The box is made of a metal material such as cold rolled steel.

灵活配置 Flexible configuration

适用于1~80KW光伏组串式逆变器的交流输出，根据逆变器的容量大小，可修改断路器的电流等级。

It is suitable for the AC output of 1~80KW PV string inverter. According to the capacity of the inverter, the current level of the circuit breaker can be modified.

概述 Overview

CSJXF 光伏交流汇流箱是适用于光伏组串式发电系统中，承接组串式逆变器与交流配电柜或升压变压器的重要组成部分，该产品最多接入10台光伏组串式逆变器，进线采用断路器输入，输出采用断路器或负荷隔离开关，母线汇流后采用二级防雷保护，系统额定电压最高为AC690V，防护等级与组串式逆变器同级为IP54，达到室外安装的要求。满足防水，防尘、防紫外线，防盐雾腐蚀等。该产品大大简化了组串式逆变器与交流配电柜或升压变压器之间的接线。此产品内部结构简洁明了，布线整齐合理。可靠性高。维护简单。户外壁挂式安装，能适应各种恶劣环境。除了标准材质和尺寸外，可按用户要求定制。

INTRODUCTION

PV combiner box can help user greatly reduce the wire of the PV modules and inverter.

According to inverter input dc voltage range, user can make numbers of the same specification PV modules in series to a string PV array, then connect photovoltaic array into PV combiner box, output through the lightning protection device and the circuit breaker, it's convenient that later inverter access.

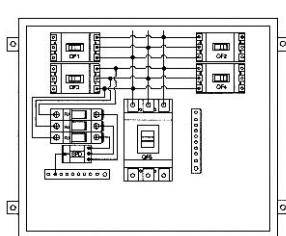
Users are suggested to comply with necessary safety regulations in the installation and use, in order to guarantee the personal safety and reduce risk, users need to abide the safety measures mentioned in the manual.

FEATURES

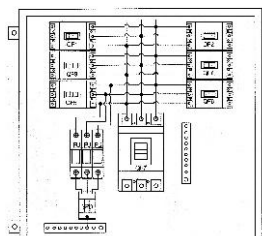
- (1) Meet the requirements of the installation outdoor and indoor.
- (2) This box can access 1/2/3/4/5/6/7/8/9/10/12/13/14/15/16/18/20 strings solar cells in serial, every string current can be up to 15A.
- (3) Equipped with high pressure lightning protection device, both anode and cathode have the function of lightning protection.
- (4) Equipped with fuse and circuit breaker two levels of safety protection devices.
- (5) Simple, convenient installation and maintenance, with long service life.

Rated working current: UP TO 250A

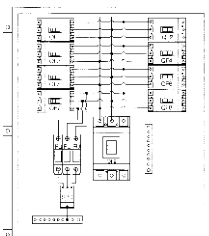
- (6) OEM: Yes
- (7) Protection Level: IP65
- (8) BOX Material: IRON STEEL



4路 (4 Ways)



6路 (6 Ways)



8路 (8 Ways)

CSJXF 交流汇流箱

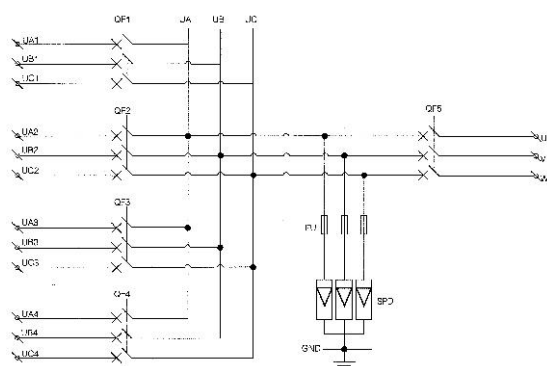
AC Combiner Box



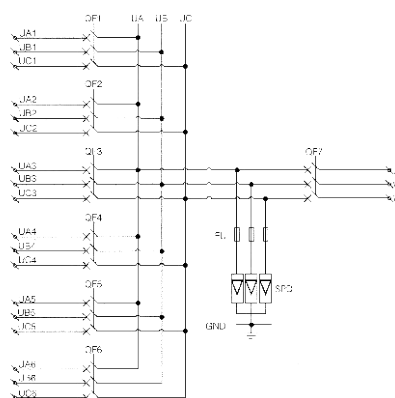
主要技术参数 The main technical parameters

产品型号 Product number	CSJXF
输入路数Number of input channels	2、3、4、5、6、8、10
最高输入电压Maximum input voltage	AC690
每路输入电流Input current per channel	32~400A
最高输出电流Highest output current	250~800A
额定工作电压Un Rated working voltage Un	380~400VAC
电压保护水平Up Voltage protection level Up	≤3.2kV
标称通流容量In(8/20μs) Nominal flow capacity In(8/20μs)	20kA(可根据客户要求选配Can be selected according to customer requirements)
最大通流容量Imax(8/20μs) Maximum flow capacity Imax(8/20μs)	40kA(可根据客户要求选配Can be selected according to customer requirements)
响应时间Response time	<25ns
温湿度Temperature and humidity	工作温度：40~+85℃，湿度95%，无凝露、无腐蚀性气体场所 Working temperature:40~+85℃,humidity 95%,no condensation,rio corrosive gas
海拔altitude	≤4000m
输入输出开关Input and output switch	断路器breaker
浪涌保护器Surge protector	标配Standard
箱体材质Box material	热镀锌钢板/不锈钢/冷轧钢板/工程塑料 Hot-dip galvanized steel Sheet/Stainless steel/Cold rolled steel sheel/Engineering plastic
箱体防护等级Box protection level	IP54
电缆接头防护等级Cable connector protection rating	IP66
体积(宽X高X深)Volume(width×height×depth)	可定制 (Customized)

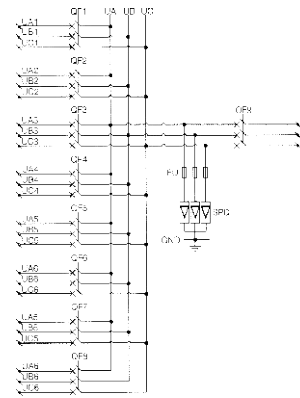
典型方案设计与外形 Typical design and shape



4路 (4 Ways)



6路 (6 Ways)



8路 (8 Ways)

新能源充电箱 New Energy Charging Box



概述 Overview

新能源充电箱规格型号其实塑料电表箱的外观和造型是非常的美观的，整体的设计线条也是非常的流畅的，在电表箱的内部一些电器元器件的布置和设计也是很合理的，看起来也是很美观的，并且采用也是三相挂钩进行连接的，安装以后非常的坚固。

The new energy charging box specifications and models, in fact, the appearance and shape of the plastic meter box is very beautiful, the overall design line is also very smooth, the layout and design of some electrical components inside the meter box is also very reasonable, it looks and also it is very beautiful, and it is also connected by a three-phase hook. It is very strong after installation....



自复式过欠压 Auto Reset Self-recovery Under-Overvoltage Protector CSY1

概述 Overview

CSY1自复式过欠压延时保护器是我公司根据市场需要研制的新一代产品，该保护器设计合理，并采用进口元器件和国内名牌元器件组装，采用先进的工艺制造手段。产品能在高电压；中击和欠压情况下迅速、可靠的切断电源，起到保护作用，当电压恢复正常值，经延时后能自动接通电路，恢复供电，能有效保护电器在电源瞬间通电的冲击，所有功能全部自动化，无需专人操作，选用双灯指示。

电源指示：绿色 保护指示：红色

CSY1 self-resetting over-voltage and time-delay protector is a new generation product developed by our company according to market needs. The protector is designed reasonably, and it is assembled with imported components and domestic famous brand components, and adopts advanced technology manufacturing methods. The product can cut off the power supply quickly and reliably under high voltage; medium and under voltage conditions, and protects the power. When the voltage returns to normal value, the circuit can be automatically turned on after the delay, and the power supply can be restored. The impact of instant power-on, all functions are fully automated, no special operation is required, and dual-lamp indication is used. Power indicator: Green Protection indicator: red



CSM2L系列光伏专用断路器

Photovoltaic Miniature Circuit Breaker



概述 Overview

CSM2L系列并网专用断路器的设计思想来源于安装在非专业人员无法触及的无人设施，如城网农网改造的电表箱(计量箱)和低压JP柜(配电变压器综合配电柜)，光伏、风电发电系统、高山转播台，基站，独立设备，动力箱等。产品具有剩余电流显示，实时负载电流显示各相电压显示，产品分合闸指示时间显示和故障查询等功能。显示方式为(中文液晶屏显示)和(数码管显示)两种，用户可根据需要自行选择，还具有剩余电流欠电压、过电压、缺相故障引起的剩余电流动作断路器断开后自动重合闸功能。该产品适用于交流50Hz，额定绝缘电压1000V，额定工作电压400V，额定电流40A、800A的三相四线中性点直接接地(TT)配电网络。用于提供间接接触保护；防止因设备绝缘损坏产生接地故障电流而引起的火灾危险，并可用来分配电能和保护线路的过载和短路；对线路的过压欠压、缺相、电源侧断零具有保护功能。



The design idea of CSM2L series grid-connected special circuit breaker comes from the installation of unmanned facilities that cannot be touched by non-professionals, such as meter box (metering box) and low-pressure JP cabinet (distribution transformer integrated power distribution cabinet), photovoltaic, wind power generation system, mountain relay station, base station, independent equipment, power box, etc. The product has residual current display, real-time load current shows each phase voltage display, product closing and closing time display and fault inquiry. The display mode is (Chinese LCD display) and (digital tube display). Users can choose according to their needs. They also have residual current undervoltage, overvoltage, and phase loss. The residual current action circuit breaker automatically overlaps after disconnection. Brake function. This product is suitable for three-phase four-wire neutral point direct grounding (TT) power distribution network with AC 50Hz, rated insulation voltage 1000V, rated working voltage 400V, rated current 40A, 800A. It is used to provide indirect contact protection; to prevent fire hazard caused by ground fault current caused by equipment insulation damage, and to distribute power and protect line overload and short circuit; overvoltage and undervoltage, phase loss and power supply side disconnection of line With protection.

功能特点 Features

采用高性能32位微控制器(Mcu)12位AD采样，实时进行信号处理和智能控制；
 液晶中文显示，中文提示实现人机界面指示，操作简单
 剩余电流(漏电)保护，剩余电流档位可在线整定，具有一次重合闸功能；
 高灵敏度自动跟踪档位方式，可实时监测跟踪线路剩余电流，自动调节档位，保证产品的投运率和可靠性；
 长延时短延时和瞬时三段保护，自生电工作，采用电子式脱扣，与电源电压无关；
 具有高分断能力，保证线路短路保护的可靠性；
 大电流瞬时脱扣功能，当断路器闭合时，遇短路大电流($\geq 20In$)，断路器由电磁脱扣器机构直接脱扣；
 过压保护，欠压保护，缺相保护开关上端断零保护、开关—E端失压脱扣功能、送电自动重合闸功能；
 线路剩余电流、三相电源电压负荷电流，实时时钟显示；保护功能及参数可在线设置修改；
 跳闸类型(剩余电流闭锁过载、欠压、过压、缺相、断零、失)识别显示故障识别，并可存储查询、删除；
 网络型具有通信功能，可实现遥信、遥测、遥控遥调；
 具有与电表通讯相同规约，实现与电表网络并网；
 RS485接口、具有无源远距离操作功能；



High-performance 32-bit microcontroller (Mcu) 12-bit AD sampling, real-time signal processing and intelligent control; LCD Chinese display, Chinese prompts to achieve human-machine interface indication, simple operation residual current (leakage) protection, residual current gear can be On-line setting, with one reclosing function; High-sensitivity automatic tracking gear mode, real-time monitoring of residual current of tracking line, automatic adjustment of gear position, ensuring product operation rate and reliability; long delay short delay and instantaneous three segments Protection, self-generated electricity, electronic tripping, independent of power supply voltage; high breaking capacity to ensure the reliability of line short circuit protection; high current instantaneous tripping function, when the circuit breaker is closed, encounter short circuit and large current ($\geq 20In$), the circuit breaker is directly tripped by the electromagnetic trip mechanism; overvoltage protection, undervoltage protection, zero-phase protection at the upper end of the phase-deficient protection switch, voltage-off trip function of the switch-E terminal, automatic reclosing function of the power transmission; Current, three-phase power supply voltage load current, real-time clock display; protection functions and parameters can be modified online; Trip type (remaining current blocking Overload, undervoltage, overvoltage, phase loss, zero break, loss) identification shows fault identification, and can store queries and deletes; network type has communication function, can buy existing remote signal, telemetry, remote control remote adjustment; The same protocol, to achieve grid connection with the meter network; RS485 interface, with passive remote operation;

光伏并网柜

PV Grid-Connected Cabinet



概述 Overview

CSGGD、CSJXF对于大型光伏并网发电系统。为了减少逆变器与并网柜之间连接线及电量损耗 方便维护提高可靠性.一般在逆变器与并网柜之间增加交流汇流箱，电流大小根据逆变器功率配置为了满足这一要求Im特别设计的，可与光伏逆变器产品相配套组成完整的光伏发电系统方案，使用汇流交流箱，用户可以根据交流并网箱额定输入电流及电压 可定制。

该产品主要用于分布式光伏系统100Kw-1Mw的并网线路中。

CSGGD, CSJXF for large-scale photovoltaic grid-connected power generation systems. In order to reduce the connection line and power loss between the inverter and the grid-connected cabinet, it is convenient to maintain and improve reliability. Generally, an AC combiner box is added between the inverter and the grid-connected cabinet, and the current is configured according to the power of the inverter. In order to meet this requirement, Im is specially designed to be combined with photovoltaic inverter products to form a complete photovoltaic power generation system solution. The use of the confluence AC box allows the user to customize the current and voltage according to the AC and grid rated input current. This product is mainly used in the grid-connected line of distributed photovoltaic system 100Kw-1Mw.

Conditions for use

Ambient air temperature shall be neither above +40°C nor below -50°C.

Indoor installation and use, the altitude of the use venue shall not exceed 2000M

Environment relative humidity shall not exceed 50% at the maximum temperature of 40°C, high relative humidity is allowed when the temperature is comparatively low. (for example, it can be 90% at +20°C). Also, the impact brought about by occasional condensation due to temperature change shall be taken into consideration.

The gradient to vertical plane shall not be more than 5 degrees when equipments installation.

Equipments shall be installed at places free from excessive vibration and impact, and where no erosion shall be caused to the electric appliance components.

If users have any special requirement, please negotiate with the manufacturer for settlement.

Technical specification:

Model	Rated voltage (V)	Rated current (A)		Rated short-circuit breaking current (KA)	Rated short-time withstand current (1S)(KA)	Rated peak withstand current (KA)
		A	B			
CSGGD1	380	A	1000	15	15	30
		B	600(630)			
		C	400			
CSGGD2	380	A	1500(1600)	30	30	63
		B	1000			
		C				
CSGGD3	380	A	3150	50	50	105
		B	2500			
		C	2000			

Execution standard: GB 7251.12-2013/IEC61439-2:2011 <low-voltage switchgear and controlgear assemblies-part 2: Power switchgear and controlgear assemblies>



光伏汇流排

PV Busbar



概述 Overview

光伏汇流排安全装置【封闭式母排】适用于配电柜、配电箱，是一种使用安全、质量可靠、美观大方、节省空间的新型实用型产品。

总开关进线电流从100A-800A，分路开关电流从16A-630，可根据图纸设计生产配套。安装方式也有多样性，可上下安装、前后安装。安装无需专业培训，安装快捷，大量节省劳力成本。

本产品适用于：进线端可选用各类断路器隔离开关，刀熔开关，刀开关；出线端可选用M1系列断路器，施耐德断路器，ABB断路器。

近期，本公司为了适应市场需要，推出了4路进出线解决方案，完善了产品群，使选择更加多样性。

Photovoltaic busbar safety device [closed busbar] is suitable for power distribution cabinets and distribution boxes. It is a safe and reliable quality.

Beautiful and practical, space-saving and practical products.

The main switch incoming current is from 100A-800A, and the shunt switch current is from 16A-630, which can be designed and produced according to the drawings.

The installation method is also diverse, and can be installed up and down, front and rear. Installation requires no professional training, installation is quick, and a lot of labor is saved.

Force cost.

This product is suitable for: all kinds of circuit breaker isolating switch, knife melting switch, knife switch can be selected at the incoming end; M1 series circuit breakers, Schneider circuit breakers, ABB circuit breakers.

Recently, in order to meet the needs of the market, the company has launched a 4-way in and out line solution to improve the product group and make the choice more diverse.



光伏自动重合闸 CSY1L

PV Automatic Recloser



概述 Overview

CSY1L光伏自动重合闸断路器额定绝缘电压500V，适用于交流50-60Hz，额定工作电压230V/400V，额定控制电压AC220V，额定电流63A以下的线路中。光伏自动重合闸断路器适用于太阳能光伏并网及信息采集，产品具有失压跳闸，过压保护，欠压保护，过载保护和短路保护，带漏电保护，工作电压220V，额定电流63A以下的线路中。

CSY1L PV automatic recloser circuit breaker rated insulation voltage 500V, suitable for AC 50-60Hz, rated working voltage 230V/400V, rated control voltage AC220V, rated current 63A or less. Photovoltaic automatic reclosing breaker is suitable for solar photovoltaic grid connection and information collection. The product has voltage loss trip, over voltage protection, under voltage protection, overload protection and short circuit protection, with leakage protection, working voltage 220V, rated current below 63A.



功能特点 Feature

- 功能强大：失压自动分闸，检有压自动合闸；带有漏电保护，过欠压保护，具有快速脱扣功能；
- 动作迅速：操作机构对断路器的合闸时间3~5s，分闸速度3~5s；
- 性能可靠：机械寿命高达20000次，相较国内外产品提高一倍以上；
- 高安全性：分段能力高 $I_{cu}=10kA$ ；
- 传动可靠：采用内轴传动，有效保证2P及以上断路器可靠合闸；
- 兼容性好：外形及安装符合模块化终端组合电器标准，导轨式安装，互换方便；
- 节能环保：功耗低，全部采用环保材料，符合RoHS要求；
- 适应性强：适用于 $-40^{\circ}C \sim 70^{\circ}C$ ；



Powerful function: automatic pressure-breaking of pressure loss, automatic closing of pressure detection; protection against leakage, over-voltage and under-voltage protection, fast tripping function; quick action: closing time of the circuit breaker for 3~5s, opening Speed 3~5s; reliable performance: mechanical life up to 20,000 times, more than double the domestic and international products; high safety: high segmentation capacity $I_{cu}=10kA$; reliable transmission: internal shaft drive, effectively guarantee 2P and above Reliable closing; Good compatibility: shape and installation meet the standard of modular terminal assembly, rail-mounted installation, easy to interchange; Energy saving and environmental protection: low power consumption, all environmentally friendly materials, RoHS compliant; Adaptability: applicable At $-40^{\circ}C \sim 70^{\circ}C$

光伏并网专用自动重合闸 CSB9

PV Grid-connected Automatic Recloser



概述 Overview

CSB9系列智能控制预付费电能表用外置断路器(以下简称断路器),适用于国家电网公司用电信息采集系统管理,根据用户用电账户的余额情况,由预付费电能表实施分合闸控制的外置断路器。断路器额定绝缘电压500V,适用于交流50-60Hz,额定工作电压230V/400V,额定控制电压AC220V,额定电流80A以下的线路中。

CSB9系列光伏自动重合闸断路器适用于太阳能光伏并网及信息采集,产品具有失压跳闸,过压保护,欠压保护,过载保护和短路保护,工作电压220V/380V,额定电流80A以下线路中。

CSB9 intelligent control pre-paid electric energy meter external circuit breaker (hereinafter referred to as circuit breaker), suitable for the State Grid Corporation electricity information collection system management, according to the balance of the user's electricity account, the pre-paid energy meter implementation of the closing control External circuit breaker. The rated insulation voltage of the circuit breaker is 500V, which is suitable for AC 50-60Hz, rated working voltage 230V/400V, rated control voltage AC220V, rated current below 80A.

CSB9 photovoltaic auto-reclosing breaker is suitable for solar photovoltaic grid-connected and information acquisition. The product has voltage loss trip, over-voltage protection, under-voltage protection, overload protection and short-circuit protection. The working voltage is 220V/380V, and the rated current is below 80A.



功能特点 Features

- 超小体积:控制部分采用单模数设计,宽度仅18mm;
- 功能强大:失压自动分闸,检有压自动合闸;具有快速脱扣功能;
- 动作迅速:操作机构对断路器的合闸时间3~5s,分闸速度3~5s;
- 性能可靠:机械寿命高达20000次,相较国内外产品提高一倍以上;
- 高安全性:分段能力高 $I_{cu}=10kA$;
- 传动可靠:采用内轴传动,有效保证2P及以上断路器可靠合闸;
- 兼容性好:外形及安装符合模数化终端组合电器标准,导轨式安装,互换方便;
- 节能环保:功耗低,全部采用环保材料,符合RoHS要求;
- 适应性强:适用于-40°C~70°C;

Ultra-small volume: the control part adopts single-modulus design with a width of only 18mm;

Powerful function: automatic pressure-breaking of pressure loss, automatic closing of pressure detection; fast tripping function;

Quick action: the closing time of the operating mechanism to the circuit breaker is 3~5s, and the opening speed is 3~5s;

Reliable performance: mechanical life up to 20,000 times, more than double the domestic and international products; high security: high segmentation capacity $I_{cu} = 10kA$;

Reliable transmission: internal shaft drive is used to ensure reliable closing of 2P and above circuit breakers;

Good compatibility: shape and installation meet the modular standard terminal electrical standards, rail-mounted installation, easy to interchange; Energy saving and environmental protection: low power consumption, all using environmentally friendly materials, in line with RoHS requirements;

Adaptable: suitable for -40 °C ~ 70 °C ;



CSB8LE 2P可调漏电断路器

Adjustable Residual Current Circuit Breaker CSB8LE 2P Series



概述 Overview

CSB8L-63系列漏电断路器适用于交流50Hz、额定电压400V及单相230V，额定电流至63A的线路中，具有漏电触电、过载、短路等保护功能，还可以根据用户的需要增加过压保护功能。

主要用于建筑照明和配电系统的保护。本产品也可根据用户要求，增加欠压、过压保护功能。

本产品符合IEC61009-1和GB16917.1标准。

光伏专用漏电断路器 15MA-100Ma 漏电值可调 漏电功能可关闭

CSB8L-63 high-segment miniature circuit breaker is suitable for AC 50Hz or 60Hz, rated working voltage 230/400V and below, rated current 63A and below, used for lighting of office buildings, residential buildings and similar buildings, distribution lines And electrical equipment for overload, short circuit protection, over-voltage and under-voltage protection (additional over-voltage module), can also be used as a line infrequent conversion under normal conditions. This product has advanced structure, reliable performance, high breaking capacity, shape Beautiful and compact, the shell and parts are made of impact resistant, high flame retardant material. This product complies with IEC60898-1 and GB10963.1 standards Photovoltaic leakage circuit breaker 15MA-100MA leakage value can be adjusted, leakage function can be turned off.

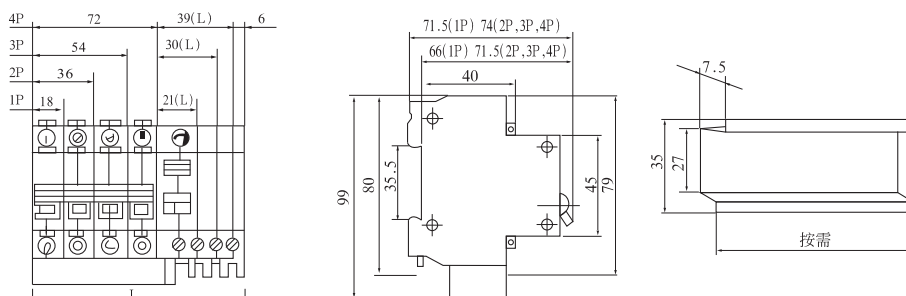


技术参数 Technical Parameters

壳架等级 额定电流 (A)	极数	中性线	额定电流 (In)A	额定短路分断能力			额定漏电动作电流 $I\Delta n$ (mA)	额定漏电不动作电流 $I\Delta no$ (mA)	脱扣器类型		
				电压(V)	分断能力 Icu A	$COS\phi$					
63	1	N	6, 10, 16 20, 25, 32	230	4500	0.7	30 50 100 300	15 25 50 150	C		
	2			230							
	3	400									
	3	400									
63	3	N	40, 50, 63	400	4500	0.8			30 50 100 300	15 25 50 150	D
	4			400							
	3	N		400							
	4			400							
63	1	N	40, 50, 63	230	4500	0.8	30 50 100 300	15 25 50 150			C
	2			230							
	3	N		400							
	4			400							

注：接线采用带夹箍的接线端子，可连接25mm²及以下导线。

外形及安装尺寸 Shape and installation dimensions



注	L(mm)
1P	45
2P及1P+N	63
3P	90
4P及3P+N	117

小型断路器DZ47系列

Miniature circuit breaker DZ47 Series

概述 Overview

DZ47-63高分断小型断路器适用于交流50Hz或60Hz，额定工作电压230/400V及以下，额定电流63A及以下的线路中，用来对办公楼、住宅和类似建筑物的照明、配电线路及电气设备进行过载、短路保护、过欠压保护(附加过欠压模块)，也可在正常情况下，作为线路不频繁的转换之用。该产品具有结构先进、性能可靠、分断能力高、外型美观小巧等特点，壳体和部件采用耐冲击、高阻燃材料制成。

该产品符合IEC60898-1和GB10963.1标准。

DZ47-63 is applicable to a line of AC 50Hz/60Hz, 230V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition. The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60898.

技术参数 Technical Parameters

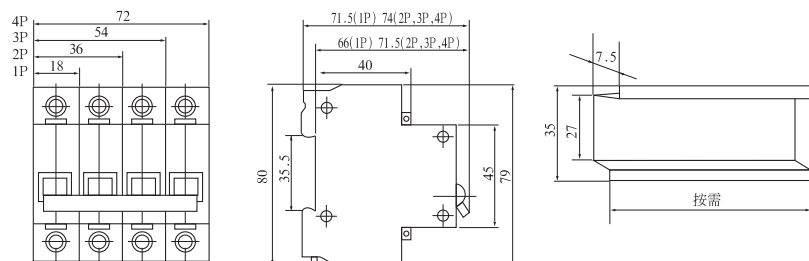
壳架等级 额定电流 (In)A	极数	频率Hz	额定电压(Ue)V	额定电流 (In)A	额定运行短路 分断能力(Ics)A		瞬时脱扣 器型式
					分断电流A	COSφ	
63	1	50	230/400	6, 10, 16 20, 25, 32 40	4500	0.7	C
	2		230, 400				
	3		400				
	4		400				
	1		230/400	6, 10, 16 20, 25, 32 40	4500	0.8	D
	2		230, 400				
	3		400				
	4		400				
63	1	230/400	50, 63	4500	0.8	C, D	
	2	230, 400					
	3	400					
	4	400					

机械寿命：20,000次(断通)

抗湿热性：2类(温度55°C时，相对湿度为95%)。

接线采用带夹箍的接线端子，固定电缆截面可达25mm。

外形及安装尺寸 Shape and installation dimensions



小型断路器DZ47系列

Miniature circuit breaker DZ47 Series

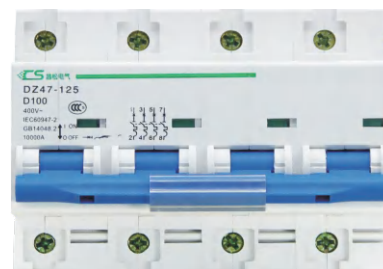


概述 Overview

DZ47-125高分断小型断路器适用于交流50Hz或60Hz，额定工作电压230/400v及以下。额定电流125A及以下的线路中，用来对办公楼、住宅和类似建筑物的照明、配电线路及电气设备进行过载、短路保护、过欠压保护(附加过欠压模块)，也可在正常情况下，作为线路不频繁的转换之用。该产品具有结构先进、性能可靠、分断能力高、外型美观小巧等特点，壳体 and 部件采用耐冲击、高阻燃材料制成。

该产品符合IEC60898-1和GB109631标准。

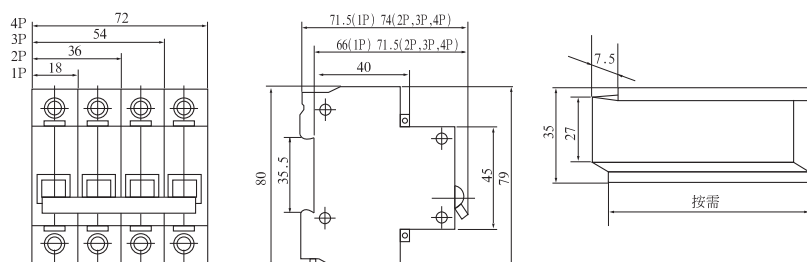
DZ47-100 is applicable to a line of AC 50Hz/60Hz, 230V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition. The breaker is applicable to lighting distribution system in industrial enterprise, commercial district, high-rise building and dwelling house. It conforms with the standards of IEC60898.



技术参数 Technical Parameters

Standard	IEC/EN61009-1
Poles	1P,2P,3P,4P
Type(wave form of the earth leakage sensed)	AC
Thermo-magnetic release characteristic	C, D
Rated sensitivity $I\Delta n$	0.03A, 0.05A, 0.1A, 0.3A
Rated residual making and breaking capacity $I\Delta m$	500($I_n < 63A$) 630($I_n = 63A$)
Rated short-circuit capacity I_{sc}	3000/4500A
Break time under $I\Delta n$	$\leq 0.1s$
Rated impulse withstand voltage(1.2/50)U _{imp}	4000V
Dielectric test voltage at ind.Freq.for 1min	2KV
Insulation voltage U _i	500V
Electrical life	2000t
Mechanical life	2000t
Contact position indicator	Yes
Protection degree	IP20
Ambient temperature(with daily average $\leq 35^\circ C$)	$-5 \sim +40^\circ C$
Storage temperature	$-25 \sim +70^\circ C$
Terminal connection type	Cable/Pin-type busbar
Terminal size top/bottom for cable	25mm ² 18-3AWG
Terminal size top/bottom for busbar	25mm ² 18-3AWG
Tightening torque	2N*m 18In-lbsm
Mounting	On DIN rail EN 60715(35mm)by means of fast clip device

外形及安装尺寸 Shape and installation dimensions



小型断路器DZ47LE系列

Miniature circuit breaker DZ47LE Series



概述 Overview

DZ47LE-63系列漏电断路器适用于交流50Hz、额定电压400v及单相230v，额定电流至63A的线路中，具有漏电触电、过载、短路等保护功能，还可以根据用户的需要增加过压保护功能。

主要用于建筑照明和配电系统的保护。本产品也可根据用户要求，增加欠压、过压保护功能。本产品符合IEC61009-1和GB16917.1标准。

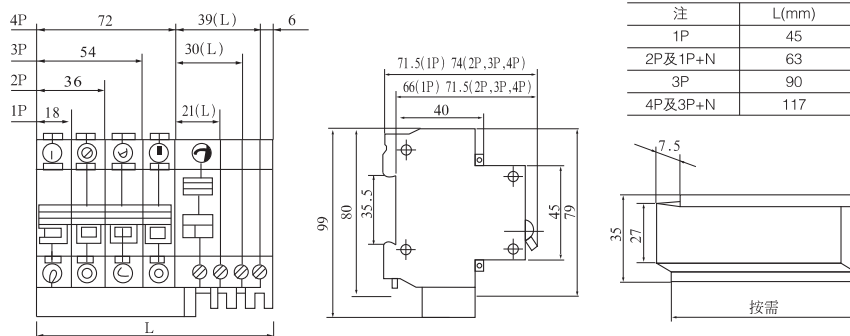
1. Provides protection against earth fault/leakage current and function of isolation.
2. High short-circuit current withstand capacity.
3. Applicable to terminal and pin/fork type busbar connection.
4. Equipped with finger protected connection terminals.
5. Automatically disconnect the circuit when earth fault/leakage current occurs and exceeds the rated sensitivity.
6. Independent of power supply and line voltage, and free from external interference, voltage fluctuation.

技术参数 Technical Parameters

壳架等级 额定电流 (A)	极数	中性线	额定电流 (In)A	额定短路分断能力			额定漏电 动作电流 I Δ n(mA)	额定漏电 不动作电流 I Δ no(mA)	脱扣器 类型								
				电压(V)	分断能力IcuA	COS ϕ											
63	1	N	6, 10, 16 20, 25, 32	230	4500	0.7	30 50 100 300	15 25 50 150	C								
	2			230													
	3	400															
	3	400															
63	3	N	40, 50, 63	400	4500	0.8				30 50 100 300	15 25 50 150	D					
	4			400													
	3	N		230									4500	0.8	30 50 100 300	15 25 50 150	C
	4			230													
3	400																
4	400																

注：接线采用带夹箍的接线端子，可连接25mm²及以下导线。

外形及安装尺寸 Shape and installation dimensions



小型断路器DZ47LE系列

Miniature circuit breaker DZ47LE Series



概述 Overview

DZ47LE-125系列漏电断路器适用于交流50Hz、额定电压400V及单相230V，额定电流至125A的线路中，具有漏电触电、过载、短路等保护功能，还可以根据用户的需要增加过压保护功能。

主要用于建筑照明和配电系统的保护。本产品也可根据用户要求，增加欠压、过压保护功能。

本产品符合IEC61009-1和GB16917.1标准。

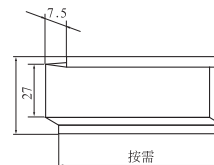
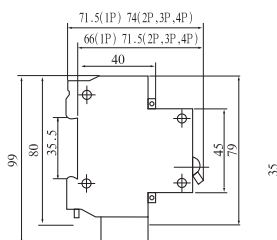
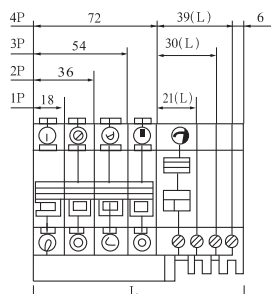


1. DZ47LE-125 high beaker mini circuit breaker is applied in the circuit of AC 50/60HZ, rated voltage 400V, rated current 125A.
2. It has advanced structure, reliable performance, high breaking capacity, appearance beautiful and small.
3. Shell by insulation and insulation parts, high impact resistance and flame retardant materials.
4. It mainly used in office buildings, residential buildings and similar lighting, power distribution lines and equipment overload, short circuit protection, can also be used in normal circumstances, for the use of lines do not frequent transformation.
5. With overload and short circuit protection, under normal circumstances as line not frequent conversion with operation, with functions of isolation.

技术参数 Technical Parameters

Standard	IEC/EN61009-1
Poles	1P, 2P, 3P, 4P
Type (wave form of the earth leakage sensed)	AC
Thermo-magnetic release characteristic	C, D
Rated sensitivity $I_{\Delta n}$	0.03A, 0.05A, 0.1A, 0.3A
Rated residual making and breaking capacity $I_{\Delta m}$	500 ($I_n < 63A$) 630 ($I_n = 63A$)
Rated short-circuit capacity I_{cn}	3000/4500A
Break time under $I_{\Delta n}$	$\leq 0.1s$
Rated impulse withstand voltage (1.2/50) U_{imp}	4000V
Dielectric test voltage at ind. Freq. for 1min	2KV
Insulation voltage U_i	500V
Electrical life	2000t
Mechanical life	2000t
Contact position indicator	Yes
Protection degree	IP20
Ambient temperature (with daily average $\leq 35^\circ C$)	$-5 \sim +40^\circ C$
Storage temperature	$-25 \sim +70^\circ C$
Terminal connection type	Cable/Pin-type busbar
Terminal size top/bottom for cable	25mm ² 18-3AWG
Terminal size top/bottom for busbar	25mm ² 18-3AWG
Tightening torque	2N*m 18In-lbsm
Mounting	On DIN rail EN 60715(35mm) by means of fast clip device

外形及安装尺寸 Shape and installation dimensions



注	L(mm)
1P	45
2P及1P+N	63
3P	90
4P及3P+N	117

小型断路器CSB8系列 交流AC

Miniature circuit breaker CSB8 Series AC



概述 Overview

CSB8-63高分断小型断路器适用于交流50Hz或60Hz，额定工作电压230/400V及以下，额定电流63A及以下的线路中，用来对办公楼、住宅和类似建筑物的照明、配电线路及电气设备进行过载、短路保护、过欠压保护(附加过欠压模块)，也可在正常情况下，作为线路不频繁的转换之用。该产品具有结构先进、性能可靠、分断能力高、外型美观小巧等特点，壳体和部件采用耐冲击、高阻燃材料制成。

该产品符合IEC60898-1和GB10963.1标准。

- 1.Specialised MCB for DC applications
- 2.Rating 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- 3.Type B and C tripping characteristics (details available on request)
- 4.6kA short circuit capacity (IEC60898)
- 5.2P 550V / 800V, 4P 1000V / 1200V
- 6.Current limiting operation under fault conditions
- 7.18mm modular width per pole
- 8.IP20 finger proof terminals
- 9.Safety terminals ensure that incorrect connection is not possible
- 10.Terminal capacity up to 35mm
- 11.High torque terminals up to 4.5Nm
- 12.Circuit indicator window allowing clear labeling of circuits
- 13.Suitable for DIN rail mounting in OEM / panel builder enclosures
- 14.Suitable for installation in consumer units, design units and MCB distribution boards
- 15.Toggle is padlockable in "ON" or "OFF" position
- 16.Wide range of multi-functional accessories

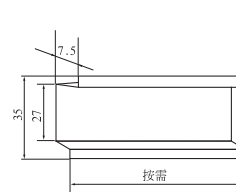
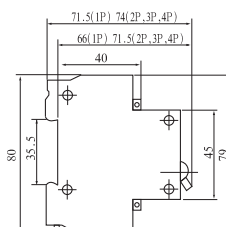
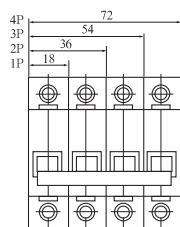
技术参数 Technical Parameters

壳架等级 额定电流 (In)A	极数	频率Hz	额定电压(Ue)V	额定电流 (In)A	额定运行短路 分断能力(Ics)A		瞬时脱扣 器型式
					分断电流A	COS φ	
63	1	50	230/400	6, 10, 16 20, 25, 32 40	4500	0.7	C
	2		230,400				
	3		400				
	4		400				
	1		230/400	6, 10, 16 20, 25, 32 40	4500	0.8	D
	2		230,400				
	3		400				
	4		400				
63	1	230/400	50, 63	4500	0.8	C, D	
	2	230,400					
	3	400					
	4	400					

机械寿命：20,000次(断一通) 抗湿热性：2类(温度55°C时，相对湿度为95%)。

接线采用带夹箍的接线端子，固定电缆截面可达25mm²。

外形及安装尺寸 Shape and installation dimensions



小型断路器CSB8L系列 交流AC

Miniature circuit breaker CSB8L Series AC



1、适用范围

CSB8L-63系列漏电断路器适用于交流50Hz、额定电压400V及单相230V，额定电流至63A的线路中，具有漏电触电、过载、短路等保护功能，还可以根据用户的需要增加过压保护功能。

主要用于建筑照明和配电系统的保护。本产品也可根据用户要求，增加欠压、过压保护功能。

本产品符合IEC61009-1和GB16917.1标准。

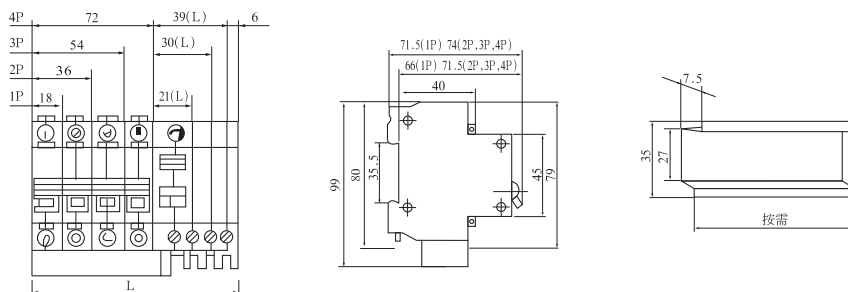
CSB8L-63 high-segment miniature circuit breaker is suitable for AC 50Hz or 60Hz, rated working voltage 230/400V and below, rated current 63A and below, used for lighting of office buildings, residential buildings and similar buildings, distribution lines And electrical equipment for overload, short circuit protection, over-voltage and under-voltage protection (additional over-voltage module), can also be used as a line infrequent conversion under normal conditions. This product has advanced structure, reliable performance, high breaking capacity, shape Beautiful and compact, the shell and parts are made of impact resistant, high flame retardant material. This product complies with IEC60898-1 and GB10963.1 standards. Photovoltaic leakage circuit breaker 15MA-100MA leakage value can be adjusted, leakage function can be turned off.

3、技术参数

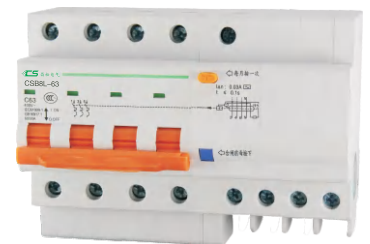
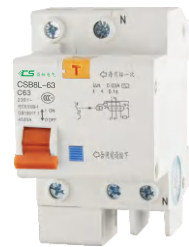
壳架等级 额定电流 (A)	极数	中性线	额定电流 (In)A	额定短路分断能力			额定漏 电动作电流 I Δ n(mA)	额定漏 电不动作电流 I Δ no(mA)	脱扣器 类型
				电压(V)	分断能力IcuA	COS ϕ			
63	1	N	6, 10, 16 20, 25, 32	230	4500	0.7	30 50 100 300	15 25 50 150	C
	2			230					
	3	400							
	3	400							
63	3	N	40, 50, 63	400	4500	0.8			D
	4			400					
	3	N		400					
	4			400					
63	1	N	40, 50, 63	230	4500	0.8			C
	2			230					
	3	400							
	3	400							
63	3	N	40, 50, 63	400	4500	0.8			C
	4			400					
	3	N		400					
	4			400					

注：接线采用带夹箍的接线端子，可连接25mm²及以下导线。

4、外形及安装尺寸



注	L(mm)
1P	45
2P及1P+N	63
3P	90
4P及3P+N	117



框架断路器 万能断路器 CSW1

Universal Air Circuit Breaker CSW1



用途及适用范围

CSW1系列智能型万能式断路器(以下简称断路器),适用于交流50Hz,额定电压至660V(690V),及以下,额定电流400A~6300A的配电网中,用来分配电能和保护线路及电源设备免受过载、欠电压、短路、单相接地等故障的危害。断路器具有智能化保护功能,选择保护精确,能提高供电可靠性,避免不必要的停电。同时带有开放式通讯接口,可进行“四遥”,以满足控制中心和自动化系统的要求。

断路器在海拔2000米的脉冲耐压8000V(不同海拔按标准修正,最高不超过12000)。

该断路器具有隔离功能,表示为:“—/—”。

断路器符合标准:GB14048. 2《低压开关设备和控制设备低压断路器》

IEC6094. 7. 2《低压开关设备和控制设备断路器》



CSW1 series Intelligent Universal ACB Air Circuit Breaker 400V/690V

China Aidun Electrical produce "SOLARSON" brand Intelligent type universal air circuit breaker ACB air circuit breaker

Technical data

Type:W1-2000,W1-3200,W1-4000,W1-6300

Rated current:630A,800A,1000A,1250A,1600A,2000A,2500A,3200A,3600A,4000A,5000A,6300A

W1 series intelligent breaker is applicable in the distribution network of AC 50Hz, rated voltage of 400V and 690V and rated current from 630A~6300A, to distribute electric energy protection circuit and prevent power equipments from harm of overload, under-voltage, short circuit and single-phase earthing etc.

Provided with intelligent protecting function and precise selective protection, breaker can enhance the dependability of power supply and avoid the unexpected power cut.

This product accords with the standard of IEC60947-2.

Keyword:3P, 4P, small volume, FH:Fixed type, DH:drawable type, Electric and manual operation,

Intelligent controller:L,M,H, under voltage instantaneous(delay) release, and shunt release

正常使用和安装条件

周围空气温度上限值不超过+40℃, 下限值不低于-5℃, 2411平均值不超过+35℃:

注:下限值为10℃或-25℃的工作条件, 用户应向本公司申明:上限值超过+40℃或下限值低于10℃或-25℃的工作条件, 用户应与本公司协商;

安装地点的海拔不超过2000 m。

大气相对湿度在周围空气为+40℃时不超过50%, 在较低温度下可以有较高的相对湿度, 最湿月的月平均最大相对湿度为90%, 同时该月的平均最低温度为+25℃, 并考虑到因温度变化发生在产品表面上的凝露。超过规定要求应与本公司协商。

防护等级:IP30

污染等级:3级

使用类别:B类或A类

安装类别

额定工作电压660V(690V)及以下的断路器以及欠电压脱扣器, 电源变压器初级线圈用于安装类别IV, 辅助电路及控制电路安装类别为III。

安装条件

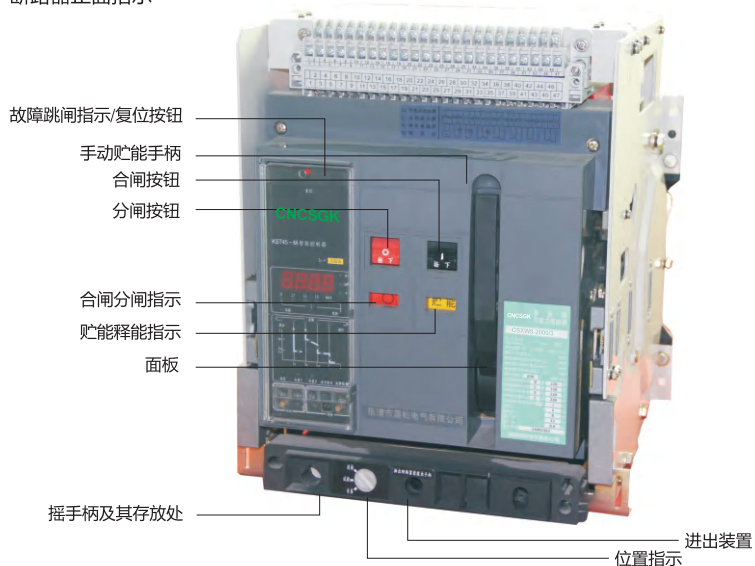
断路器应按本说明书要求安装, 断路器的垂直倾斜度不超过5。(矿用断路器的倾斜度不超过15°)。

框架断路器 万能断路器 CSW1 Universal Air Circuit Breaker CSW1



结构简介

断路器正面指示



CSW1系列智能型万能式断路器

CSW1-6300



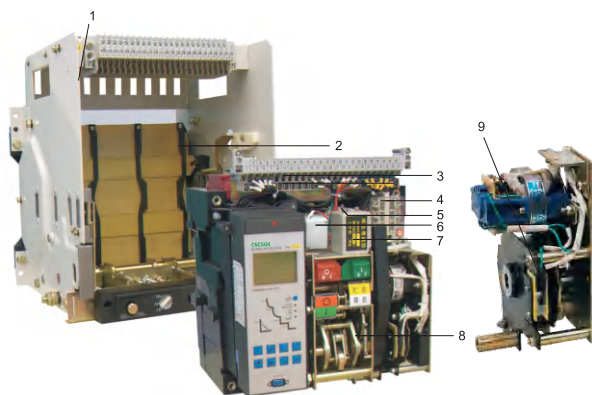
CSW1-4000



CSW1-3200



CSW1-2000



框架断路器 万能断路器 CSW1

Universal Air Circuit Breaker CSW1



- 抽屉式断路器
1. 抽屉座
 2. 安全隔板
 3. 二次回路接线端子(动)
 4. 辅助触头
 5. 分励脱扣器
 6. 欠电压脱扣器
 7. 合闸电磁铁
 8. 操作机构
 9. 电动储能机构
 10. 智能控制器
 11. 面板



Detailed Images

Frame size rated current Inm(A)	Rated current InA	Rated insulation voltage(v)	Rated limit short- circuit breaking capacity Icu(kA)		Rated operating short- circuit breaking capacity Icu(kA)		Rated short-time withstand current Icw kA(1s)
			400V	690V	400V	690V	
2000	630 800 1000 1250 1600 2000	690	80	50	50	40	50
3200	2000 2500 3200		100	65	65	50	65
4000	3200 3600 4000		100	65	65	50	65/80
6300	4000 5000 6300		120	80	80	70	85/100

塑壳断路器系列CSNS

Moulded Case Circuit Breaker CSNS



概述 Overview

CSNS系列电子式断路器(以下简称断路器)是我公司开发的新产品,其设计体现了最高的限流原理和制造技结构紧凑、全模块化、高分断、零飞弧等特点。其额定绝缘电压为750V,适用于交流50Hz,额定工作电压690V及以下,额定工作电流至630A的电路中作频繁的转换及电机不频繁的起动之用。断路器具有过载、短路和欠压保护装置,能保护线路及电源设备不受损坏。

断路器按照其额定极限短路分断能力(Icu)的高低,分为N型(标准型),H型(较高分断型),L型(限流型)。

本断路器可垂直直安装(即竖装),亦可水平安装(即横装),本断路器不能倒进线,即只可1、3、5接电源线,2、4、6接负载线。

本断路器执行下列标准:

IEC60947-1及GB/T14048.1总则

IEC60947-2及GB14048.2低压断路器

IEC60947-4及GB14048.4接触器及电动机起动器

IEC60947-5.1及GB14048.5机电控制电路电器



NS series moulded case circuit breaker is one of breaker which adopts international advanced design . Manufacture technology to develop,the rated insulating voltage is 750V,suitable for AC 50Hz or 60Hz, rated working voltage 690V or below,rated working current is 12.5A to 1250A of circuit and used in distributing electric energy,and non-frequent breaking in the normal conditions,protecting the current & equipment from overload under voltage,circuit breaker with rated frame current 400A or below.

主要技术参数

型号 Type	壳架等级 额定电流 Inm(A) Shelf rank Rated current	额定 电流 In(A) Rated operating current	额定 工作 电压 Ue(V) Rated insulating voltage (V)	额定 绝缘 电压 Ui(V) Rated insulating current (V)	额定极限 短路分 断能力 Icu(kA) AC380V Rated limit short-circuit breaking capacity	额定运行 短路分 断能力 Icu (%Icu) Rated operating short-circuit breaking capacity	外形尺寸(mm) Dimensions			安装尺寸(mm) Installation size			操作性能 (次) Operating performance (times)	
							L	W 3P/4P	H	A	B	φd	通电	不通电
CSNS-100N	100	25、40 50、63 80、100	690	750	25	75%	161	105/140	86	35	125	1500	2-6	8500
CSNS-100H					700	75%								
CSNS-100L					150	75%								
CSNS-160N	160	125、 160	690	750	36	75%	161	105/140	86	35	125	1000	2-6	7000
CSNS-160H					70	75%								
CSNS-160L					150	75%								
CSNS-250N	250	200、 225、 250	690	750	36	75%	161	105/140	86	35	125	1000	2-6	7000
CSNS-250H					70	75%								
CSNS-250L					150	75%								
CSNS-400N	400	350、 400	690	750	45	75%	255	140/185	110	45	200	1000	4-6	4000
CSNS-400H					70	75%								
CSNS-400L					150	75%								
CSNS-630N	630	500、 600	690	750	45	75%	255	140/185	110	45	200	1000	4-6	4000
CSNS-630H					70	75%								
CSNS-630L					150	75%								

塑壳断路器系列CSM1

Moulded Case Circuit Breaker CSM1 series



概述 Overview

CSM1系列塑料外壳式断路器是我公司在对电力系统的需求进行认真分析, 研究的基础上设计出来的, 吸收同类产品的优点, 总结联合设计产品的经验, 充分考虑设计的整体运行要求, 以及操作人员的安全方便, 设计力求合理, 并且考虑设备完整通用性。

CSM1系列塑料外壳式断路器其额定绝缘电压为800V, 适用于交流50Hz, 额定工作电压690V以下, 额定电流从6A至2000A的电网中。断路器一般作配电用, 亦可作电动机保护用。

在正常情况下, 可分别作为电路的不频繁转换及电动机的不频繁启动之用。

配电网络中用来分配电能及当电路电气设备的过载、短路和欠电压时的保护。

保护电动机用断路器, 在配电网络中用作电动机的启动和运转中分断及作为电动机的过载、

短路和欠电压保护。本断路器可以实现上下级之间的保护服务, 具有三段保护功能。

本断路器不能倒进线, 即只可1、2、3接电源线, 2、4、6接负载线。

本断路器可垂直安装(即竖装), 亦可水平安装(即横装)。

本断路器具有隔离功能其相应的符合为 $\text{—} \text{—} \text{—}$ 。

符合标准IEC60947-1, GB/T14048.1总则

符合标准IEC60947-2, GB14048.2断路器

符合标准IEC60947-4, GB14048.4接触器和电动机起动器

The CSM1 series plastic case circuit breaker has a rated insulation voltage of 800V and is suitable for AC 50Hz, rated working power below 690V, and rated current from 6A to 2000A. Circuit breakers are generally used for power distribution and can also be used for motor protection. Under normal circumstances, it can be used as an infrequent conversion of the circuit and an infrequent start of the motor. Protection in the distribution network for distributing electrical energy and when overloading, shorting and undervoltage of electrical equipment in the circuit. The circuit breaker for protecting the motor is used in the power distribution network to be used for starting and running of the motor and for overloading, short-circuiting and under-voltage protection of the motor. The circuit breaker can realize the protection service between the upper and lower levels, and has three-stage protection function. The circuit breaker cannot be inverted into the line, that is, only the power lines can be connected to 1, 2, and 3, and the load lines can be connected to 2, 4, and 6. The circuit breaker can be installed vertically (ie, vertically) or horizontally (ie horizontally). The circuit breaker has an isolation function and its corresponding compliance is

分类 Classification

按装产品极数分为二极、三极、四极;

按额定电流(A)分:

CSM1-63为(6)、10、16、20、25、32、40、50、63A九级(6A规格无过载保护);

CSM1-100为(10)、16、20、25、32、40、50、63、80、100十级;

CSM1-225为100、125、140、160、180、200、225七级;

CSM1-400为225、250、315、350、400五级;

CSM1-630为400、500、630三级;

CSM1-800为630、700、800A三级;

CSM1-1250为630、700、800、1000、1250五级;

CSM1-1600为1000、1250、1600三级;

CSM1-2000为1600、1800、2000三级

按飞弧距离分为短飞弧和零飞弧(用W表示);

按接线方式分为板前接线、板后接线、插入式;

按过电流脱扣器型式分电磁(瞬时)型、热力电磁(复式)型、智能型。



CSM1-250L



CSM1-400L

附件名称	不带附件	报警触头	分励脱扣器	辅助触头	欠压脱扣器	分励脱扣器+辅助触头	二组辅助触头	欠压脱扣器+辅助触头	分励脱扣器+报警触头	辅助触头+报警触头	欠压脱扣器+报警触头	分励脱扣器+报警触头	二组辅助触头+报警触头	欠压脱扣器+辅助触头+报警触头
瞬时脱扣器	200	208	210	220	230	240	260	270	218	228	238	248	368	278
复式脱扣器	300	308	310	320	330	340	360	370	318	328	338	348	368	378
智能型脱扣器	400	408	410	420	430	440	460	470	418	428	438	448	468	478

塑壳断路器系列CSM1

Moulded Case Circuit Breaker CSM1 series



断路器适用工作环境 Circuit breaker for working environment

安装地点的海拔高度不超过2000m；
 周围空气温度不高于+40°C，不低于-5°C；
 在无爆炸危险的介质中，且介质无足以腐蚀金属和破坏绝缘和导电尘埃的地方；
 无雨雪袭的地方；
 污染等级3；
 安装类别III



CSM1-250L



CSM1-400L

主要性能指标 Main performance indicators

型号model	CSM1-63		CSM1-100			CSM1-225			CSM1-400		CSM1-630 CSM1-800			CSM1-1250		
壳架电流Shell current	63		100			225			400		630、800			1250		
额定电流 Rated current	6、10、16、 20、25、32 40、50、63		16、20、25、 32、40、50 63、80、100			100、125、 140、160、 180、200、 225			200、250 315、350 400		400、500 630、700 800			630、700 800、1000 1250		
极数 Number of poles	2、3、4		2、3、4			2、3、4			3、4		3、4			3		
极定绝缘电压 Extremely insulated voltage Ui	660		800			800			800		800			800		
额定工作电压 Rated operating voltage Ue	440		690			690			690		690			690		
操作次数 Number of operations	通电Power ups	6000		6000			2000			1000		500			500	
	不通电No power	8500		8500			7000			4000		2500			2500	
分断能力等级 Breaking ability level	S		H			R			S		H			R		
额定极限短路分断电力 Icu(kA) Rated limit short-circuit breaking power	690V	/	10	8	20	/	8	20	/	10	20	10	20	/	20	25
	400V	25	50	35	50	85	35	50	85	50	65	50	65	100	65	100
额定运行短路分断能力 Ics(kA) Rated operating short-circuit breaking capacity	690V	/	5	4	10	/	4	10	/	10	10	10	10	/	18	20
	400V	18	35	25	35	42.5	25	35	42.5	35	40	35	40	50	32.5	40
外形尺寸 Dimensions	L	135	135	155	155(155)	165	165(165)	257(257)		275(275)		330				
	W	75	75	90	90(120)	105	105(140)	140(183.5)		210(280)		210				
	H	73.5	81.5	68	86(86)	86	103(103)	103(103)		103(103)		137				
安装尺寸 Installation size	A	117		132			126		194		243		299			
	B	25		30			35		44		70		70			
	Φd	Φ3.5		Φ4.5			Φ4.5		Φ7		Φ7		Φ9			

注：()内尺寸为四极开磁尺寸。Note: The size of () is a four-pole magnetic opening size.

Product Details Show

CSM1 moulded type electric circuit breaker for home solar system is designed to provide overcurrent protection within appliances or electrical equipment, where a branch circuit protection is already provided or not required. Devices are designed for direct current (DC) control circuit applications. CSM1-PV 3P DC750V 4P DC1000V specialized in Moulded Case Circuit Breaker dc circuit breaker is widely used in solar power system.

塑壳断路器系列CSM1L

Moulded Case Circuit Breaker CSM1 series



概述 Overview

CSM1L系列带剩余电流保护塑料外壳式断路器(以下简称断路器), 是本公司采用国际先进设计制造技术研制、开发的新型断路器。其额定绝缘电压为800V, 适用于交流50Hz, 额定工作电压400V及以下, 额定工作电流至630A的电路中作不频繁转换及电动机不频繁启动之用。断路器具有过载、短路和欠电压保护功能, 能保护线路和电源设备不受损坏, 同时还可以对过电流保护不能检测出的长期存在的接地故障可能引起火灾危险提供保护。

断路器按照其额定极限短路分断能力(I_{cu})的高低, 分为M型(较高分断型)、H型(高分断型)二类。该断路器具有体积小、分断高、飞弧短, 抗振动等特点。

本断路器可垂直安装(即竖装), 亦可水平安装(即横装)。

本断路器不可倒进线, 即只允许1、3、5接电源线2、4、6接负载线。

断路器适用于隔离, 符号标示为 $\text{—} / \text{—} \times$ 。

本断路器产品执行下列标准:

{IEC60947-2及GB14048.2低压断路器及附录B带剩余电流保护的断路器

IEC60947-4及GB14048.4接触器和电动机起动器

IEC60947-5.1及GB14048.5机电式控制电路电器



CSM1L-250



CSM1L-250

CSM1L series is the moulded case circuit breaker with residual current protection. It's apply to the circuit's infrequent transitions which is 50Hz (or 60Hz), rated insulation voltage 800V and Rated operational voltage 400V, rated current 630A as well as the use of motors with infrequent starts.

The circuit breaker which has the function with overload, short circuit and undervoltage protection can protect the prevent the circuit and the equipment of power supply from being damaged; At the same time, it can provide indirect contact protection for the human body. And it is also can provide protection against the fire hazards that can not be detected by excessive current protection in the presence of long-term ground faults.

The CSM1L residual current circuit breaker can be directly protecting whose rated residual operating current is 30mA when other protective devices is failing.

主要特点

常规的带剩余电流保护断路器的漏电保护模块工作电源取样为二相。本系列断路器为三相。若缺一相, 断路器漏电保护模块仍能正常工作。

额定剩余动作电流 $I_{\Delta n}$ 最大断开时间根据实际情况现场可调;

具有漏电报警输出功能;

符合IEC60947-2、GB14048.2附录B的电磁兼容要求;

外形体积与DM1系列断路器同规格相同, 安装具有较好的互换性

适用工作环境及安装条件

安装地点的海拔2000m及以下,

周围介质温度不高于+40°C和不低于5°C; 且24小时平均值不超过35°C(特殊订货除外);

安装地点的空气相对湿度在最高温度为40°C时不超过50%; 在较低温度下可以有较高的相对湿度, 最湿月的月平均最低温度不超过+25°C。该月的月平均最大相对湿度不超过90%。并考虑温度变化发生在产品表面上的凝露;

污染等级为3级;

断路器主电路的安装类别为III。不接至主电路的辅助电路和控制电路, 安装类别为II;

在无爆炸危险的介质下, 且介质无足以腐蚀金属和破坏绝缘的气体与导电尘埃的地方;

在没有雨雪侵袭的地方;

断路器应按产品的使用说明书安装。

塑壳断路器系列CSM1L

Moulded Case Circuit Breaker CSM1 series



7、主要技术指标

◎ 技术性能指标

表三

型号	CSM1L-100			CSM1L-225			CSM1L-400		CSM1L-630		
壳架电流Inm(A)	100			225			400		630		
额定电流In(A)	16、20、25、32 40、50、63、80、100			100、125、140、160、 180、200、225			250、315 350、400		400、500、630		
极数	3	4		3	4		3	4	3	4	
额定绝缘电压Ui(V)	~										
额定工作电压Ue(V)	AC400			AC400			AC400		AC400		
额定冲击耐受电压Uimp(V)	8000			8000			8000		8000		
分断能力级别	M	H		M	H		M		M		
极限短路分断能力Icu(kA)	AC400V	50	85	50	50	85	50	65		65	
运行短路分断能力Ics(kA)	AC400V	35	50	35	35	50	35	42		42	
额定剩余动作电流IΔn(mA)	非延时型	100/300/500								-	
	延时型	100/300/500								300/500/1000	
额定剩余不动作电流IΔno(mA)	$\frac{1}{2}I\Delta n$										
额定剩余短路接通(分断)能力IΔm(kA)	$\frac{1}{4}Icu$										
操作性能(次)	通电	1500			1000			1000		1000	
	不通电	8500			7000			4000		4000	
外形尺寸(mm)	W	92	122	107	142	150	198	210	280		
	L	150	150	165	165	257	257	280	280		
	H	92	92	90	90	106.5	106.5	115.5	115.5		
	分励脱扣器	○	○	○	○	○	○	○	○	○	
	欠电压脱扣器	○	○	○	○	○	○	○	○	○	
	漏电报警单元模块	○	○	○	○	○	○	○	○	○	
	辅助触头	○	○	○	○	○	○	○	○	○	
	报警触头	○	○	○	○	○	○	○	○	○	
	电动操作机构	○	○	○	○	○	○	○	○	○	
	转动手柄操作机构	○	○	○	○	○	○	○	○	○	

注：1. 极限分段与飞弧距离包含横装与竖装；

2. 本系列三极断路器接三相负载时，负载不能带中性线，否则该断路器会产生误动作；

3. 本系列三极断路器接单相负载时，相线接左极，中性线接右极，不要接中心极。

电子式塑壳断路器CSM1E

Electronic Moulded Case Circuit Breaker CSM1E



概述 Overview

CSM1E系列电子式塑料外壳式断路器（以下简称断路器），适用于交流50Hz（或60Hz），其额定绝缘电压为800V，额定工作电压690V及以下，额定工作电流至800A的电路中作不频繁转换及电动机不频繁启动之用。断路器具有过载长延时反时限、短路短延时反时限、短路瞬时和欠压保护功能以及剩余电流保护（可选），缺相保护功能（可选），能保护线路和电源设备不受损坏，断路器保护特性齐全、精确、能提高供电可靠性，避免不必要的停电，其中“Z”型控制带有通讯接口，可进行“四遥”，以满足控制中心和自动化系统的要求。

断路器按照其额定极限短路分断能力的高低，分为M型（较高分断型）、H型（高分断型）二种。

该断路器具有体积小、分断能力高、飞弧短、抗振动等特点。

断路器可垂直安装（即竖装），亦可水平安装（即横装）。

断路器具有隔离功能，其相应的符号为“—|—”

断路器不可倒进线，即只允许1、3、5接原线，2、4、6接负载线。



CSM1E series intelligent molded case circuit breaker is one of the new circuit breakers developed and developed by our factory using international advanced design and manufacturing technology. Its rated insulation voltage is 800V, suitable for AC 50Hz, rated working voltage 400V, rated working current to 1250A in the circuit for infrequent conversion and motor infrequent starting. The circuit breaker has overload long delay inverse time limit, open short delay inverse time limit, short circuit short delay time limit, open circuit instantaneous and under voltage protection function, which can protect the line and current equipment from damage.

The circuit breaker can be installed vertically (ie, vertically) or horizontally (ie horizontally).

The circuit breaker can not be reversed into the line, that is, only 1, 3, and 5 are connected to the power line, and 2, 4, and 6 are connected to the load line.

This circuit breaker implements the following standards:

IEC60947-1 and GB/T14018.1 General;

Additional requirements for IEC60947-2 and GB14048.2 low-voltage circuit breakers and Appendix F with electronic overcurrent protection circuit breakers;

IEC60947-4 and GB14048.4 contactors and motor starters;

IEC60947-5.1 and GB14048.5 electromechanical control circuit electrical appliances.

断路器符合标准

IEC 60947-1 及 GB/T14048.1 《低压开关设备和控制设备 总则》

IEC 60947-2 及 GB14048.2 《低压开关设备和控制设备 低压断路器》及附录F《带电子过电流保护断路器的附加要求》

IEC 60947-5.1及GB14048.5 《低压开关设备和控制设备 控制电路电器和开关元件》

正常工作环境

海拔：≤2000m

环境温度：-5℃~+40℃

能耐受潮湿空气的影响

能耐受盐雾、油雾的影响

断路器主电路的安装类别为Ⅲ，其实辅助电路、控制电路安装类别为Ⅱ。

最高温度+40℃时，空气的相对湿度不超过50%，在较低的湿度下可以允许有较高的相对湿度，对由于温度变化偶尔产生的凝露应采取特殊措施

最大倾斜度为22.5°

在无爆炸危险的介质中，且介质无足以腐蚀金属和破坏绝缘的气体与导电尘埃的地方

在没有雨雪侵袭的地方

主要功能及特点

智能控制器是塑壳断路器的核心部件，应用于电动机保护或者配电保护，实现测量、保护、控制和通信功能于一体，使线路和电源设备免受过载、短路、接地等故障危害采用MCU微处理器控制，性能稳定可靠；该智能控制器能自供电源，只要一相通电，当电流不低于其额定值的20%时，都能确保保护功能正常工作
选择性配合具有三段保护：使用类别为B类的断路器与连接在同一电路中的其他短路保护装置在短路条件下具有选择性配合；过载长延时反时限、短路延时（反时限、定时限）、短路瞬时等保护功能参数的整定

具有动作电流、动作时间三段保护参数设置，可进行4-10档调整；用户可根据负载电流要求对控制器进行设置调整，也可根据用户要求选择关断相应功能（定制功能，需用户订货时注明）

大电流瞬时脱扣功能：当在断路器闭合时，或在运行时，如遇到短路大电流（≥20Inm），断路器磁脱扣机构可直接脱扣，双重保护更加可靠安全

具有脱扣测试（实验）：输入直流DC12V电压实验断路器动作特性

故障自诊断功能：对智能控制器自身的工作状态和运行情况进行保护和检测

具有预报警指示、过载指示：当负载电流达到或超过设定值时相应导光柱导出光源

磁通变换器双气隙技术：工作更可靠稳定，杜绝误动作、脱扣可靠、功率微小

保护精度高：过载保护、短路短延时保护动作时间精度±10%，短路瞬时保护动作值精度为±15%取决于动作电流

电子式塑壳断路器CSM1E

Electronic Moulded Case Circuit Breaker CSM1E



可选功能 (基于CSM1E通讯型)

- 具有温度监控保护功能：当环境温度超过设定值时（默认设置85℃），控制器会输出报警光电信号或使断路器分闸
- 双路无源信号输出功能：供发信号（或报警）用，容量AC230V 5A
- 具有过载热记忆功能：过负荷热记忆功能、短路（短延时）热记忆功能
- 具有消防分励功能：过载报警不脱扣（提供一对无源触点）并提供分励脱扣功能
- 具有通讯功能：标准的RS2323、RS485、Modbus现场总线协议
- 可连接手持式编程器：对断路器各种保护参数进行设定和进行近10次故障查询及各种状态显示等
- 可连接智能控制模块：转换光隔离触点信号输出，包括可编程DO输出功能
- 高档型带液晶显示模块



Optional features (based on CSM1E communication type)

- With temperature monitoring protection function; when the ambient temperature exceeds the set value (default setting is 85 °C), the controller will output an alarm photoelectric signal or make the circuit breaker
- Dual passive signal output function: for signal (or alarm), capacity AC230V 5 A
- Overload thermal memory function: overload thermal memory function, short circuit (short delay) thermal memory function
- With fire protection and shunt function: overload alarm does not trip (provides a pair of passive contacts) and provides shunt trip function
- With communication function: standard RS2323, RS485, Modbus fieldbus protocol
- Can be connected to the handheld programmer: set various protection parameters of the circuit breaker and perform nearly 10 fault queries and various status displays, etc.
- Connectable intelligent control module: converts optically isolated contact signal output, including programmable DO output function
- High-grade LCD module

功能详解

通讯功能

- 通过通讯协议转换卡可方便接入PROFIBUS-DP协议网络、DEVICE-NET协议和其它配电自动化网络中，具备遥控、遥测、通讯和遥测功能，可实现对断路器远距离操作达到远距离电力调度。
- 遥测：电网的工作参数、负载电流、故障参数等
- 通讯：断路器的各种参数、脱扣特性、额定电流等
- 遥调：计算机远程调节断路器的各种保护参数、脱扣特性、额定电流等
- 遥控：计算机遥控开关的断开等

手持式编程器

- 液晶显示、操作简单、界面简洁，可对断路器各种保护参数进行设定、上次故障查询、功能编辑、DO功能输出编程等、可根据用户自定义方案进行功能设置或期货功能升级

过负荷热记忆功能

- 控制器过载热记忆功能可由用户选择，出厂时默认为关闭
- 控制器过载热记忆能量在30分钟内完全释放

短路热记忆功能

- 控制器（短延时）短路电流保护热记忆功能可由用户选择，出厂时默认为关闭
- 控制器（短延时）短路电流保护热记忆能量在15分钟内完全释放

故障记录功能

- 控制器可将最近10次发生的故障类型、故障跳闸时间、故障相及最大故障电流记录，掉电不丢失

消防分励功能

- 供消防系统使用，在设定的参数下达到脱扣条件是，断路器不脱扣并输出常开常闭触点，并提供分励功能可由用户自行选择是否断开断路器

可编程DO输出功能

- 控制器有四个光电信号输出，D01和D02光信号都可编辑为以下功能输出，D03为分闸信号，D04为合闸信号

长延时故障	短延时故障	接地故障
漏电故障	瞬时故障	过压故障
温度超温故障	故障跳闸	欠压故障
长延时故障报警	短延时故障报警	接地故障报警
漏电故障报警	瞬时故障报警	过压故障报警
温度超温故障报警	故障跳闸报警	欠压故障报警

断路器分闸状态检测功能 (可选功能)

- 控制器可检测断路器当前的分闸状态实时地上传给上位机至计算机网络

BDP浪涌保护器系列 AC Surge Protection Device

概述 Overview

适用于交流 50/60Hz, 380V 及以下的 TT、IT、TN-S、TN-C 等供电系统, 可应用在 LPZOB、LPZ2、LPZ3 的界面处, 一级电涌过电压的防护。

BDP 系列 220V/380V, 单相, 三相浪涌防雷保护器适用于交流 50Hz、220V/380V 供电系统雷击或浪涌过电压保护, 能满足用电设备末端保护要求,

如机场、工厂计算机网络、智能设备、民用建筑等。

BDP 系列浪涌防雷保护器适用于交流 50Hz 及 220V/380V 以下的 IT, Tn 等供电系统雷击或电击保护、技术网络、机场通信、工厂、智能建筑、医院、消防中心、工业自控室、有线电视机房、楼宇监控等。楼层的分配电箱内、电梯间, 也可安装在小型住宅总配电箱内。

BDP 系列浪涌防雷保护器适用于交流 50-60Hz, 380V 及以下的 TT、Tn 等供电系统, 广泛应用于各类电源二级 (B 级) 过电压保护。一般安装在建筑物进线的低压主配电柜或电压总开关柜内等。



CE XLSPD series 10kA/20kA/30kA/60kA 4 pole spd surge arrester surge protection devices
Applications and features

Application:

XLSPD series surge protection is suitable for TN-S, TN-C-S, TT, IT etc power supply system of AC 50/60Hz, 380V and below, installed on the joint of LPZOA zone or LPZOB and LPZ1 zone, which protects the electric network not shocked by the thunder and lightning, it's design is according to GB18802.1, IEC61643-1.



Feature:

CSSPD series surge protection is suitable for B grade lightning proof, installed on the joint of LPZOA zone or LPZOB and LPZ1 zone, which protects the electric network not shocked by the thunder or surge over voltage. LY1-B100, LY1-B80 are usually installed in low voltage main distribution box connected to the incoming end of the building.

2. CE XLSPD series 10kA/20kA/30kA/60kA 4 pole spd surge arrester surge protection devices

Parameters

Type	CSSPD					
Protection Level:	B,C,D					
Rated Operating Voltage U_n (V)	380V/220V					
Max continuous operating voltage U_c /V	275	320V	385V	385V	385V	420V
Voltage protection level u_p (KV)	≤ 1.0	≤ 1.20	≤ 1.80	≤ 2.0	≤ 2.2	≤ 2.8
Maximum discharge current I_{max} (8/20 μ s)KA	10	20	40	60	80	100
Nominal discharge current I_n (8/20 μ s)KA	5	10	20	30	40	60
Response times	≤ 25					
Test Standard	IEC61643-1/GB18802-1					
Operating Environment	-40 degree to + 85 degree					
Max Connection Line	35mm ² hard wire/35mm ² strand wire copper line					
Recommended Connection Line	16mm ² hard wire/25mm ² strand wire copper line					
Installation	Standard Rail 35mm					
Material of outer covering	Burning -proof Nylon					

闸刀系列 HK1 2P 4P

Knife switch Series HK1 2P 4P



概述 Overview

HK1系列手拉式隔离开关/刀闸开关适用于交流50Hz、额定电压至380V、交流电压至380V，直流至440V；额定电流32~100A的成套配电装置中，作为不频繁地手动接通和分断交、直流电路或作隔离开关用。主要供无负载情况下接通或断开电路，作线路与电源接通或隔离之用。尤其适合线路检修时有效隔离电源并防止意外合闸，以确保检修人员的操作安全，刀开关按照极数可以分为单极刀开关、双极刀开关和三极刀开关按照转换方式可以分为单投式刀开关、双投式刀开关；按操作方式可分为手柄直接操作式和杠杆式刀开关。

Hk1 series hand-operated isolating switch / knife switch is suitable for AC 50Hz, rated voltage to 380V, AC voltage to 380V, DC to 440V; rated current 32~100A in the complete power distribution device, as infrequently manually connected and Break the AC, DC circuit or use as a disconnecter. It is mainly used to connect or disconnect the circuit under no load, and the line is connected to the power supply or isolated. It is especially suitable for effectively isolating the power supply during line maintenance and preventing accidental closing, so as to ensure the safety of the maintenance personnel. The knife switch can be divided into single pole knife switch, bipolar knife switch and three pole knife switch according to the number of poles. Single-throw knife switch, double-throw knife switch; can be divided into handle direct operation type and lever type knife switch according to operation mode



HK1

闸刀系列 HD11F

Knife switch Series HK11F

概述 Overview

HD11F系列手拉式隔离开关/刀闸开关适用于交流50Hz、额定电压至380V、交流电压至380V，额定电流100~1000A的成套配电装置中，作为不频繁地手动接通和分断交、直流电路或作隔离开关用。主要供无负载情况下接通或断开电路，作线路与电源接通或隔离之用。尤其适合线路检修时有效隔离电源并防止意外合闸，以确保检修人员的操作安全，刀开关按照极数可以分为单极刀开关、双极刀开关和三极刀开关按照转换方式可以分为单投式刀开关、双投式刀开关；按操作方式可分为手柄直接操作式和杠杆式刀开关。

HD11F series hand-operated isolating switch / knife switch is suitable for AC 50Hz, rated voltage to 380V, AC voltage to 380V, rated current 100~1000A in the complete power distribution device, as infrequently manually switch on and off AC and DC The circuit is used as a disconnecter. It is mainly used to connect or disconnect the circuit under no load, and the line is connected to the power supply or isolated. It is especially suitable for effectively isolating the power supply during line maintenance and preventing accidental closing, so as to ensure the safety of the maintenance personnel. The knife switch can be divided into single pole knife switch, bipolar knife switch and three pole knife switch according to the number of poles. Single-throw knife switch, double-throw knife switch; according to the operation mode can be divided into handle direct operation type and lever type knife switch.



HD11F

闸刀系列 HD13BX

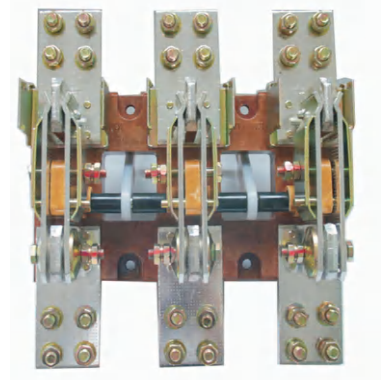
Knife Switch HD13BX



概述 Overview

HD13系列手拉式隔离开关/刀闸开关适用于交流50Hz、额定电压至380V、交流电压至380V，直流至440V；额定电流400~2500A的成套配电装置中，作为不频繁地手动接通和分断交、直流电路或作隔离开关用。主要供无负载情况下接通或断开电路，作线路与电源接通或隔离之用。尤其适合线路检修时有效隔离电源并防止意外合闸，以确保检修人员的操作安全，刀开关按照极数可以分为单极刀开关、双极刀开关和三极刀开关按照转换方式可以分为单投式刀开关、双投式刀开关；按操作方式可分为手柄直接操作式和杠杆式刀开关。

Hd13 series hand-operated isolating switch / knife switch is suitable for AC 50Hz, rated voltage to 380V, AC voltage to 380V, DC to 440V; rated current 400~2500A in the complete power distribution device, as infrequently manually connected and Break the AC, DC circuit or use as a disconnecter. It is mainly used to connect or disconnect the circuit under no load, and the line is connected to the power supply or isolated. It is especially suitable for effectively isolating the power supply during line maintenance and preventing accidental closing, so as to ensure the safety of the maintenance personnel. The knife switch can be divided into single pole knife switch, bipolar knife switch and three pole knife switch according to the number of poles. Single-throw knife switch, double-throw knife switch; according to the operation mode can be divided into handle direct operation type and lever type knife switch.



CSGL负荷隔离开关

CSGL Load disconnecting switch

概述 Overview

CSGL系列负荷隔离开关适用于交流50Hz、额定电压至660v、直流电压至440v、约定发热电流至3200A的工业企业配电设备中，用作不频繁接通与分断电路及电气隔离之用，广泛应用于建筑、电力、石油化工及其他行业的配电系统和自动化系统中。

CSGLZ转换负荷隔离开关，由两台csGL负荷隔离开关上下叠装或左右并装而组成，适用于双路电源的切换或两台负载设备的转换及安全隔离等。

开关符合IEC60947 3、GB14048.3标准。

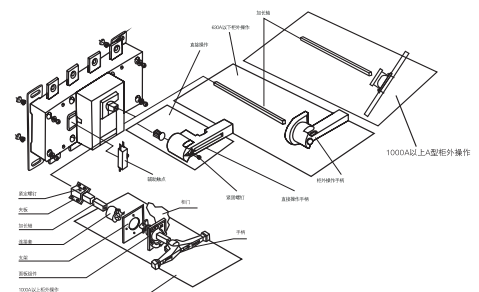
开关造型美观、新颖简洁，体积小、功能全，是同类产品的最佳选择。

CSGL series load disconnecting switch is suitable for power distribution equipment of AC 50Hz, rated voltage to 660v, DC voltage to 440v, and agreed heating current to 3200A. It is used for infrequent connection and disconnection circuit and electrical isolation. It is widely used. In distribution systems and automation systems in the construction, power, petrochemical and other industries.

The CSGLZ conversion load isolating switch is composed of two csGL load isolating switches stacked on top of each other or installed side by side. It is suitable for switching of two-way power supply or conversion and safety isolation of two load devices.

The switch complies with IEC60947 3 and GB14048.3 standards.

The switch is beautiful in appearance, novel and simple, small in size and full in function, and is the best choice for similar products.



CSQ1 CB级 双电源自动转换开关

CSQ1 CB degree Dual power Automatic Transfer Switch



概述 Overview

CSQ1型A.T.S智能双电源自动转换开关(以下简称开关),是一种紧急时仍继续供电开关,开关由断路器和智能控制器组成。它以最新的微机控制系统为核心,电磁兼容性设计,抗干扰性强,长期连续工作稳定可靠,配以大屏幕背光LCD显示,给用户形成一个良好的人机对话界面,操作、警示简便及高度智能化,是一种理想的机电一体化新型双电源自动转换开关。产品符合标准:GB/T14048.11-2008《低压开关设备和控制设备第6部分;



多功能电器第1篇:自动转换开关电器》。

本开关适用于50/60Hz,额定电压1000V以下,额定电流2500A以下的双电源供电开关,能实现常用电源(N)与备用电源(R)之间的自动或手动切换。(主备电源可以是电网、起动发电机组、蓄电池等,主备电源由用户白定。)使双电源用电客户实现无人值守。本开关适用于国家规定的特级或一级负荷用户,如高层楼宇、邮电通讯、煤矿船舶、工业流水线、医疗卫生、军事设施、机场、消防、冶金、化工、纺织、石油等不允许停电的重要场所。

正常工作条件

周围空气温度为-5°C~+40°C,24小时平均值不超过+35°C:

最高温度+40°C时相对湿度不超过50%,较低温度时允许有较高的相对湿度,例如+20~C时为90%,但应考虑到由于温度变化有可能产生凝露现象;

安装地点的海拔高度不超过2000m;

类别为IV类。倾斜度不大于±23°C;

污染等级为3级;

如果上述条件不能满足时,订货时应与制造商协商,本开关用于矿用、海上、石油和核电站时应另行签订技术协议。

CSQ1 CB Dual Power Automatic Transfer Switch (A.T.S for short) applies to the terminal double-loop power supply system that 50Hz/60Hz, rated operating voltage 220 v (2 p), 380 v (3 p and 4 p), rated current 10~63A. It can automatically switch the normal power to reserved power to prove the reliability of power supply, mainly used for fire pumps, smoke fans, elevators, pumps, lighting in high-rise buildings, shopping malls and other places. This product conforms to the GB/T 14048.1-1 standard.

Our Dual Power Automatic Transfer Switch includes power conversion circuit breakers (one piece each of K1 normal power implementation circuit breaker and K2 reserved power implementation circuit breaker), control box, electric devices and other components. Circuit breaker K1 and K2 both have the over-current protection and circuit breaker protection function, can be used for switching and protecting the main circuit at the same time.

主要技术参数

额定电流 Rated Current	10A	16A	20A	25A	32A	40A	50A	63A
工作电流 Shell	63A							
工作电压 Working Voltage	AC400V							
控制电压 Controlling Voltage	AC220V							
额定冲击耐受电流 Rated Impulse Withstand Current	6KA							
绝缘 Isulation	AC690V							
频率 Frequency	50/60HZ							
标准 Standard	GB/T14048.11							

CSQ1 小型双电源转换开关

Mini Dual power Transfer Switch



概述 Overview

CSQ1-63型双电源自动转换开关（以下简称A.T.S）适用于50Hz/60Hz,额定工作电压220V(2P)、380V(3P、4P),额定电流10A~63A 末端型双回路供电系统。可以完成常用电源与备用电源之间的自动切换，以保证供电的可靠性，主要用于高层建筑、商场等消防泵、排烟风机、电梯、生活水泵、事故照明等场所。本产品符合GB/T14048.11标准。

双电源自动转换开关主要由电源转换执行断路器（常用电源执行断路器K1和备用执行断路器K2各1台）、自动控制盒、电动操作机构等部分组成；断路器K1和K2均保持原有的过流保护和断路器保护功能，可同时作为通断及保护主电路之用。

Dual power automatic transfer switch normal operating conditions:

- 1.The ambient temperature shall not be higher than +60℃, or lower than -20℃, and the daily average shall not exceed +45℃.
- 2.The altitude of installation site shall not exceed 4000m.
- 3.Relative humidity shall not exceed 50% at the ambient temperature of +40℃, a higher humidity is allowable at a lower temperature, the average maximum relative humidity is 90% in the wettest month at a monthly average minimum temperature of +25℃,and special measures shall be taken for the condensation on surface of product due to temperature change.
- 4.Pollution class: class III
- 5.In place of no intense vibration and impact, no harmful gas corrosive and disruptive to the insulation, no sever dust, no conducting microparticle and explosive substance, no high electromagnetic interference.



功能特点

自动原理：

- 1、市电正常时，（180~240V）本开关自动接通市电线路与用电线路
- 2、市电不正常(断电缺相)时,立即启动自发电切断市电供电线路，接通发电供电线路。

手动原理：

按下手动控制键，可以手动切断市电供电电路，接通发电线路与用电线路，也可以手动接通市电线路与用电线路，同时可以切断市电和发电两路，实行双分，使用电线路空载，实施用电线路维护。

Dual power automatic transfer switch Main Speciality:

- 1.Reasonable structure, small volume, nice appearance, provided with protective shield, safer and more reliable power supply.
- 2.Complete protective functions, including short circuit, overload, open phase and loss-of-voltage protection.
- 3.Reliable remote double-break with EPS fire protection power supply interface DC12-24V.
- 4.Noiseless, energy saving, simple installation, easy operation, reliable and stable performance.

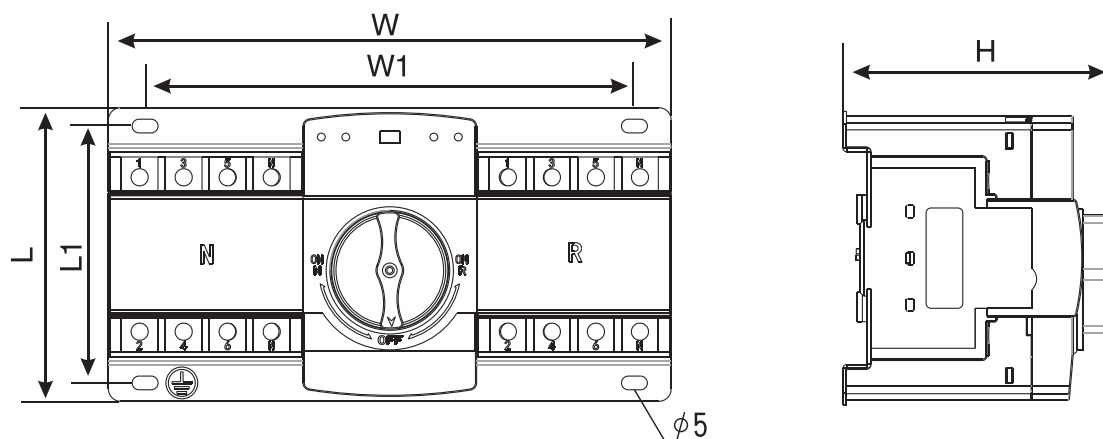
Rated Working Current	10A	16A	20A	25A	32A	40A	50A	63A
Rated Working Voltage	AC220V 380V 415V							
Controlling Voltage	220VAC							
Rated Short Circuit Breaking Capacity	3KA 4.5KA 6KA							
Rated Insulation Voltage	AC500V							
Transfer Time	≤1.2S							
Frequency	50/60HZ							
ATS Level	CB Class							
Standard	IEC60947-1							

CSQ1 小型双电源转换开关

Mini Dual power Transfer Switch



外形及安装尺寸



规格	尺寸mm	W	W1	L	L1	H
CSQ1-63/2P		160	130	120	105	110
CSQ1-63/3P		195	165	120	105	110
CSQ1-63/4P		230	200	120	105	110

使用操作

无论常用电源和备用电源有无电压，均可采用手动操作方式。手动操作时，应将手动—自动按钮置于手动位置，当推动手 顺时针旋转至终端时，常用电源执行断路器K1合闸，备用电源执行断路器K2分闸。当推动手 逆时针旋转至终端时，常用电源执行断路器K1分闸，备用电源执行断路器K2合闸。 控制器面板显示状态，常用电源指示灯（UN）、备用电源指示灯（UR），若该灯不亮，说明自动控制器工作电源

有故障，不能正常使用。待修复正常后，方可投入运行，将手动-自动按钮置于自动位置状态，如果常用电源供电正常，开关将自动换入常用电源执行断路器QN合闸状态，面板中常用合闸指示灯（UNON）灯亮；当常用电源异常时，开关切换至备用电源执行断路器QR合闸状态，备用合闸指示灯（URON）亮。

CSQ1G PC级 隔离型

CSQ1G PC Degree Isolation



概述 Overview

控制装置：内置控制器

产品结构：体积小、电流大、结构简单、ATS一体化

特点：切换速度快、故障率低、维修方便、性能可靠

接线方式：板前接线

转换方式：电网对电网、电网对发电机、自投自复

产品壳架：20、25、32、40、50、63、80、160、250、400、630、800、1250、1600、2500、3200、4000

产品电流：20、32、40、63、80、100、125、160、200、225、250、315、400、500、630、800、1000、1250、1600、2000、2500、3200、4000A

产品分类：负荷开关式

产品极数：3、4

产品标准：GB/T1404811-2008

ATSE：PC级



Automatic transfer switch mainly used for distribution or electromotor network, which under voltage 380V, rated voltage DC 220V, Rated current 16A-3200A.

Main power and standby power or mutual standby power change over system or city power and generator group overload switch-over. At the same time, it can operated under un-frequency on and off circuit act as disconnecter.

Widely used at the field of important power supply site, which transport, distribution power supply system and automatization system. For fire protection, hospital, bank, building, etc, where doesn't allow power off.

Product Parameters

Conventional thermal current I _{th} A	630A			
Rated current I _n (A)		400A	630A	
Rated impulse withstand voltage U _i (A)		500	500	
Dielectric strength(V)		8000	8000	
Rated surge-resistant voltage U _{imp} kV(installed category IV)		12	12	
Rated Working current I _e (A)	380A	AC-31	400	630
		AC-33	340	536
		AC-35	400	630
	220A	DC-31	400	630
		DC-33	315	500
		DC-35	400	500
Motor power P(380V)kW		220	280	
Rated short-time withstand current(kA Rms)0.1S/1S		40/20	50/25	
Rated breaking capability(A Rms)AC33 380V		3200	3200	
Rated making capability(A Rms)AC33 380V		4000	4000	
Rated short-current making capability I _{cm} (kA peak value)		30	30	
Mechanical durability(number of cyclic operation)		5500	5500	
Electric durability	COSφ=0.65 AC33	500	500	
Change-over time	I-0-II or II-0-I (s)	1.2	1.2	
	I-0 or II-0 (s)	0.8	0.8	
Power wer consumption of electrical control	24V(DC)(w)	90	90	
Moment of operation(Nm)		45	45	

CSCPS系列控制与保护开关

CSCPS Control and Protection Switch



概述 Overview

本公司生产的CSCPS系列控制与保护开关电器，以模块化单结构形式，将断路器、接触器、过载继电器，隔离开关、漏电、电流电压表等分离元器件主要功能集成化，并能够综合各种信号，实现控制与保护特性在产品内部自配合。具有体积小、短路分断性能指标高，机电寿命长和运行可靠性高，使用安全方便、节能材料等优点。

本公司采用先进的Mcu控制技术，开发的CSCPS系列控制与保护开关电器，保护精度高、工作稳定可靠、抗干扰能力强，实现控制保护开关数字化、智能化、通信网络化及现场总线连接监控等功能。



- The CSCPS(KBO) Series product have the advantages of integration of control and protection, modularization, structure miniaturization, high class anti-pollution, high breaking capacity, small flashover distance, long electrical life, complete protection functions, highly reliable and continuous running performance, easy installation and maintenance etc. It is widely used at industry facility, basic facility, fire-fighting system, commercial and civil facilities:
- In control and protection system of electric distribution and motor of Metallurgy industry, Coal mine, Steel industry, Petrochemical industry, Port, Shipping, Railway etc;
- Motor Control Center (MCC) and Electric distribution center;
- Power station and sub-station;
- Shipping and Railway system (like airport, railway and highway passenger center etc.);
- Expressway lighting and ventilating system;
- Control and protection system of Army garrison (like the border post, Radar station etc.);
- All kind of fire-fighting pump, Draught fans etc.;
- Modernized building lighting, power transfer, pump, fan, air-conditioner, fire-fighting control and protection;
- Hospital and Commercial building (like shopping mall, super market etc.);
- Telecomm system;
- Information center (like civisms, bank, stock exchange center etc.)
- Single motor control and protection system of factory or workshop;
- Remote lighting control system.
- 2) Main technical data
 - Two outline dimensions(C and D frame size) - 3-pole and 4-pole - Current ratings: 12, 16, 18, 32, 45, 63 and 100A - Min. Setting current: 0.16A; Max. Setting current: 100A - Short-circuit break capacity: 35kA for type C(Economic); 50kA for type Y (Standard); 80kA for type H(High capacity). - Opening time under prospective short-circuit current is 2-3ms, at current limiting of 0.2 and below.

MC4.0光伏延长线
MC4.0 PV extension

PV MATCHING
SUPPLIERS
光伏配套供应商



微逆变器专用MC4.0连接线
MC4.0 connection line for micro inverter





工具包 Tool kit



压线钳 Crimping pliers



压线钳 Crimping pliers



Mc3钳口
Tongs



泰科钳口
Tyco jaws



8-10平方钳口
Square jaw



剥线钳 Wire stripper



MC4.0扳手 Wrench

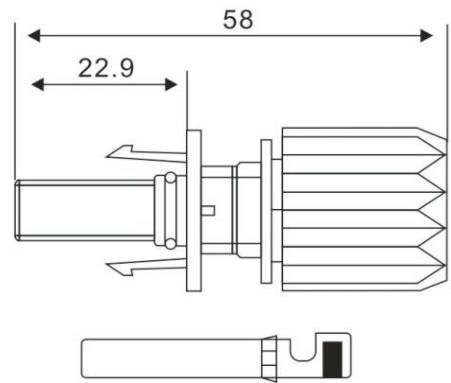
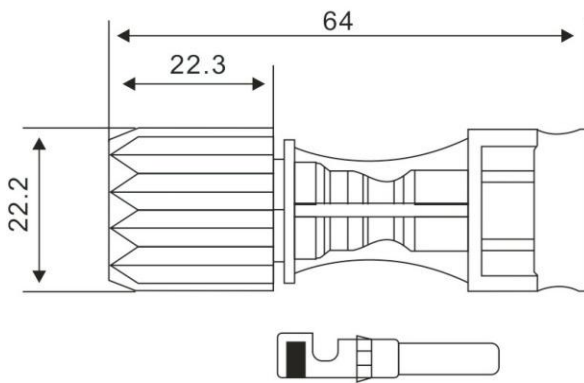


剥线钳 Wire stripper



耐老化材料：塑胶主体采用进口材质的PPO/PC材料，具有强烈的抗老化、耐紫外线能力，使用寿命 ≥ 25 年；五金接插件：优质铜材和认证标准锡镀层，接触电阻优异，插板寿命长；防水：精密的模具尺寸确保成品组件接触密封性，认证防水等级IP67，实际使用可达到IP68。

Aging resistant material: plastic body using imported materials PPO / PC material, with a strong anti-aging, UV resistant Line capacity, service life more than 25 years; hardware connector: high quality copper and tin plating certification standards, excellent contact resistance, Long service life; waterproof: precision mold size to ensure that the finished product assembly contact sealing, certification and waterproof grade IP67, Actual use can reach IP68.



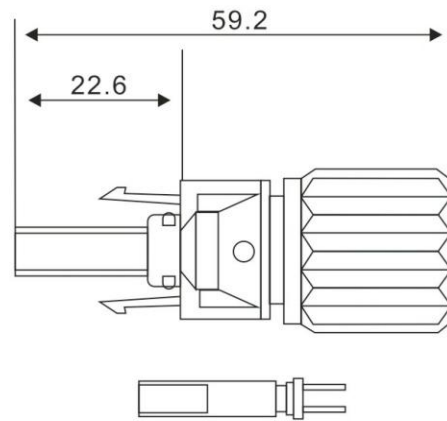
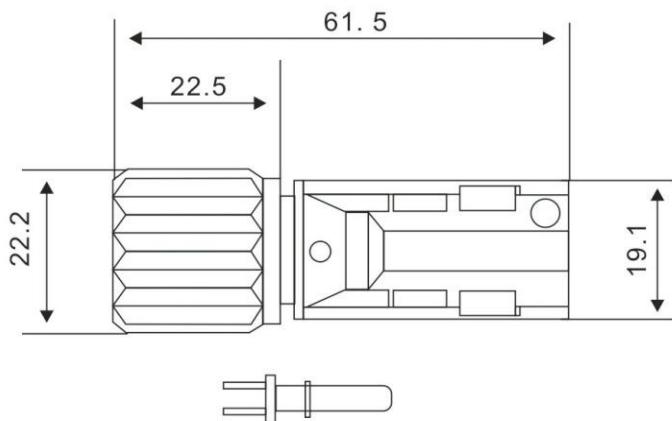
技术参数	
额定电流 Rated current	30A
额定电压 Rated voltage	1500V DC
测试电压 Test voltage	8000V(50Hz,1min)
过电压类型/污染指数 Overvoltage category/Pollution degree	CATⅢ/2
连接器接触电阻 Contact resistance of plug connectors	$\leq 5\text{m}\Omega$
连接器导体材料 Contact material	铜, 镀银 Copper, Ag plated
连接器绝缘材料 Insulation material	PPO

技术参数	
保护等级 Degree of protection	IP2*/IP67
阻燃等级 Flame class	UL94-VO
安全型 Safety class	II
适配线径 Suitable cable	2.5mm ² ~ 10.0mm ² / 14AWG ~ 8AWG
拔出力 Insertion force	$\leq 50\text{N}$
拔出力 Withdrawal force	$\leq 50\text{N}$
工作温度范围 Temperature range	-40°C ~ +110°C



耐老化材料：塑胶主体采用进口材质的PPO/PC材料，具有强烈的抗老化、耐紫外线能力，使用寿命 ≥ 25 年；五金接插件：优质铜材和认证标准锡镀层，接触电阻优异，插板寿命长；防水：精密的模具尺寸确保成品组件接触密封性，认证防水等级IP67，实际使用可达到IP68。

Aging resistant material: plastic body using imported materials PPO / PC material, with a strong anti-aging, UV resistant Line capacity, service life more than 25 years; hardware connector: high quality copper and tin plating certification standards, excellent contact resistance, Long service life; waterproof: precision mold size to ensure that the finished product assembly contact sealing, certification and waterproof grade IP67, Actual use can reach IP68.


技术参数

额定电流 Rated current	30A
额定电压 Rated voltage	1000V DC
测试电压 Test voltage	8000V(50Hz,1min)
过电压类型/污染指数 Overvoltage category/Pollution degree	CATⅢ/2
连接器接触电阻 Contact resistance of plug connectors	$\leq 5\text{m}\Omega$
连接器导体材料 Contact material	铜, 镀银 Copper, Ag plated
连接器绝缘材料 Insulation material	PPO/PC

技术参数

保护等级 Degree of protection	IP2*/IP67
阻燃等级 Flame class	UL94-VO
安全型 Safety class	II
适配线径 Suitable cable	2.5mm ² ~ 10.0mm ² / 14AWG ~ 8AWG
拔出力 Insertion force	$\leq 50\text{N}$
拔出力 Withdrawal force	$\leq 50\text{N}$
工作温度范围 Temperature range	-40°C ~ +110°C

