



CW3G 系列 交直流隔离开关

CW3G SERIES(AC,DC)SWITCH-DISCONNECTOR



- 国家重点高新技术企业
- 全国企事业单位知识产权示范单位
- 全国守合同重信用企业
- 国家科学技术进步二等奖获得者

2019.07



- 隔离开关具有交流型式和直流型式，直流可至DC1000V
- 直流隔离开关可用于不接地或接地直流系统
- 与外部保护继电器配合实现短路保护

2019年版

常熟开关制造有限公司(原常熟开关厂)
CHANGSHU SWITCHGEAR MFG. CO., LTD. (FORMER CHANGSHU SWITCHGEAR PLANT)

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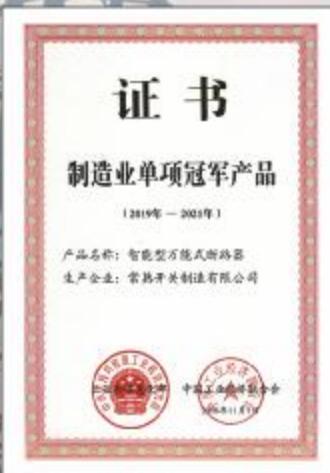
国家科学技术进步奖证书
National Awards for Science andTechnology
Certificate



国家科学技术进步奖证书
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Certificate



中国机械工业百强证书
Top 100 China Machinery Industry Companies



制造业单项冠军产品证书
ACBs award Individual Champion Product in
Manufacture Industry



中国合格评定国家认可委员会实验室认可证书
Laboratory Accreditation Certificate rewarded by
China National Accreditation Service for Conformity
Assessment (CNAS)



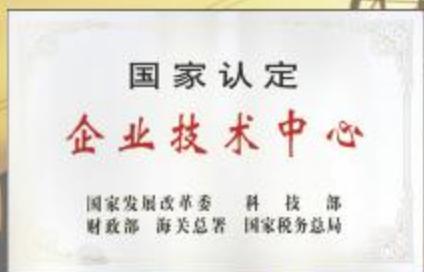
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National Enterprise Technology Center



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Postdoctoral Technical Innovation Centre



改革开放40周年机械工业杰出产品
Outstanding products of Machinery Industry for the 40th
anniversary of Reform and Opening-up Policy

公司简介

Introduction

常熟开关制造有限公司是国有参股的电器研发制造领军企业，注册资本3.8亿，现有员工1700人，专业研发和制造中低压配电电器、工业控制电器、中低压成套装置、光伏逆变器及光伏发电配套电器和智能配电监控系统及配套测控器件。产品广泛应用于电力、机械、矿山、冶金、石化、建筑、船舶、核电和新能源发电等领域。

常熟开关坚持自主创新，持续完善创新平台，不断提升公司的创新能力。2002年起，公司建立“博士后科研工作站”；2010年，公司被国家科技部评为“国家创新型试点企业”；2011年，公司技术中心获国家发展改革委员会、科技部、财政部、海关总署、国家税务总局联合颁发的“国家认定企业技术中心”；2013年，公司获批建立“江苏省智能电网配用电关键技术研究重点实验室”。公司拥有一支300多人的创新团队，所研发的技术和产品先后获得多项省市级以上荣誉，其中“低压保护电器关键技术的研究应用”项目和“开关电器大容量开断关键技术及应用”项目荣获国务院颁发的国家科学技术进步二等奖。

常熟开关坚持质量第一，注重全过程的质量管理，拥有一批先进的智能化、数字化的研发和制造管理系统和设备，公司检测中心获中国合格评定国家认可委员会颁发的认可证书。公司产品以优秀的性能和品质，深受用户好评，多次获得省部级质量奖。公司从1994年起参加的产品质量责任保险，至今无一理赔。

常熟开关致力于为用户提供精品电器产品，为社会、客户创造更高价值，打造一流的民族电器品牌。

Changshu Switchgear MFG. Co., Ltd. (Former Changshu Switchgear Plant), a national-leading enterprise with state-owned equity, registered capital of 0.38 billion RMB and 1700 staffs, professionally researches, develops and manufactures medium and low voltage power distribution electrical appliances, industrial control products, medium and low voltage complete sets of equipments, photovoltaic inverters & power generation equipments and intelligent power distribution monitoring system & supporting devices for observation and control, all of which are widely used in the fields of electric power, machinery, mining, metallurgy, petrochemical, construction, shipbuilding, nuclear power and new energy power generation,etc.

Changshu Switchgear insists on independent innovation, continuously improves the innovation platform and constantly improve the innovation capability. In 2002, the Post-doctoral scientific research workstation was set up. In 2010, an honor of the National Innovative Pilot Enterprise, issued by the National Ministry of Science and Technology, was awarded. In 2011, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Finance, the General Administration of Customs and the State Administration of Taxation jointly recognized the company's technology center as the National-level Enterprise Technique Center. In 2013, the company was approved to establish the Key laboratory for Research on Key Technology of Intelligent Grid Power Distribution in Jiangsu Province.

The technology and products, developed by the innovation team consist of 300 engineers and technicians, have won a number of provincial and municipal honors, in which “The research and application on key technology of low voltage protection electrical device” and “The key technology and application of large capacity breaking of switching devices” have won the second prize of the National Science and Technology Progress Award.

Changshu Switchgear insists Quality-first and pays great attention on the quality management of the whole process. Advanced intelligent digital systems and equipments have been brought in for R & D and manufacture management. The company's testing center has been rewarded the accreditation certificate issued by the China National Accreditation Service for Conformity Assessment. The products have won praise from users and also several provincial or ministerial quality awards for the excellent performance and quality. Meanwhile, no claims arise since 1994 when the product quality liability insurance was been covered for all the products.

Changshu Switchgear is committed to providing customers with high-quality electrical products, creating higher value for society and customers and shaping a leading national electrical brand.





常熟开关制造有限公司
为您提供电气系统完整的解决方案

高压真空断路器



CV1-12/CVR1-12系列
高压真空断路器



CV2-12系列
高压真空断路器



CV1-24/CV2-24系列
高压真空断路器



CV1-40.5/CV2-40.5系列
高压真空断路器

智能型万能式断路器



CW1系列
智能型万能式断路器



CW2系列
智能型万能式断路器



CW3系列
智能型万能式断路器



CW3X-1600系列
智能型万能式断路器



CW3R系列
智能型万能式断路器



CW3F-2500系列
智能型万能式断路器



CW3V系列
智能型真空万能式断路器

塑料外壳式断路器



CM3系列
塑料外壳式断路器



CM3E系列
电子式塑壳断路器



CM3L系列
带剩余电流保护塑壳断路器



CM3Z系列
智能型塑壳断路器



CM3ZL系列
带剩余电流保护塑壳断路器



CM3ZL/ZH自动重合闸
带剩余电流保护塑壳断路器



CM5系列
塑料外壳式断路器



CM5Z系列
智能型塑壳断路器



CM5Z-1600
智能型塑壳断路器



CM5L系列
带剩余电流保护塑壳断路器



CM5ZL系列
带剩余电流保护智能型塑壳断路器



CM5X-125塑料外壳式断路器
CM5XL-125带剩余电流保护塑壳断路器



常熟开关制造有限公司
为您提供电气系统完整的解决方案

自动转换开关



CA1/CA1B系列自动
转换开关(CB级)



CAP1系列自动
转换开关(PC级)



CAP2系列自动
转换开关(PC级)



CAP3系列自动
转换开关

接触器和过载继电器



CK3/CK3B系列
接触器



CJR3/CJR3B系列
热过载继电器



CJD3系列
电子过载继电器

剩余电流动作继电器



CLJ3 剩余电流
动作继电器

电动机软起动器



CR1系列
电动机软起动器



CR2系列
智能型电动机软起动器

电动机保护器



CD3系列
电动机控制保护器



CD4系列
电动机控制保护器

控制和保护电器



CB1系列
控制和保护开关电器(CPS)

光伏发电用产品



CW3G系列
隔离开关 (AC, DC)



CW3DC系列
直流万能式断路器



CM3DC系列
直流塑壳断路器

小型断路器



CH系列小型断路器

电力质量和系统自动化器件



AD128系列信号灯
LA168系列按钮



CI1系列
远程智能I/O模块



CN1DP-MP
CN1DP-MD
CN1DP-MC
通信适配器
CN1EG以太网
适配器



FDM3
短消息通知模块



FWX1无线温度测量模块



智能化通信低压配电网络监控系统



Riyear-PowerNet配电监控系统



CEPA3智能配电一体机

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概 述 *GENERAL*

CW3G系列隔离开关是由相应的CW3系列断路器派生并保持了相同的外形尺寸及安装尺寸，主要安装在低压配电电路中作主电路的接通和断开，并可起隔离作用。其符号表示为“—|—”。

- 额定工作电流630A ~ 2500A;
- 额定工作电压AC690V及以下，DC1000V及以下；
- 具有3极和4极；
- 抽屉式和固定式；
- 产品符合以下标准：
IEC60947-1及GB/T14048.1-2012 低压开关设备和控制设备 总则
IEC60947-3及GB/T14048.3-2017 低压开关设备和控制设备 开关、隔离器、隔离开关以及熔断器组合电器
- 产品获国家强制性产品认证CCC标志

CW3G series switch-disconnector (hereinafter short as switch) is derived from the corresponding CW3 series circuit-breaker, and it keeps the same outline dimensions and mounting dimensions of CW1. The switch is installed in the low voltage distribution circuits, to make the main circuit closed and opened. The switch also plays isolated role, its corresponding symbol is shown as “—|—”.

- Rated operational current: 630A ~ 2500A;
- Rated operational voltage: AC690V or below DC1000V or below;
- Three or four poles;
- Draw-out type or fixed type;
- Comply with the demands of the following standards:

IEC60947-1及 GB/T14048.1-2012 Low-Voltage switchgear and controlgear General rules

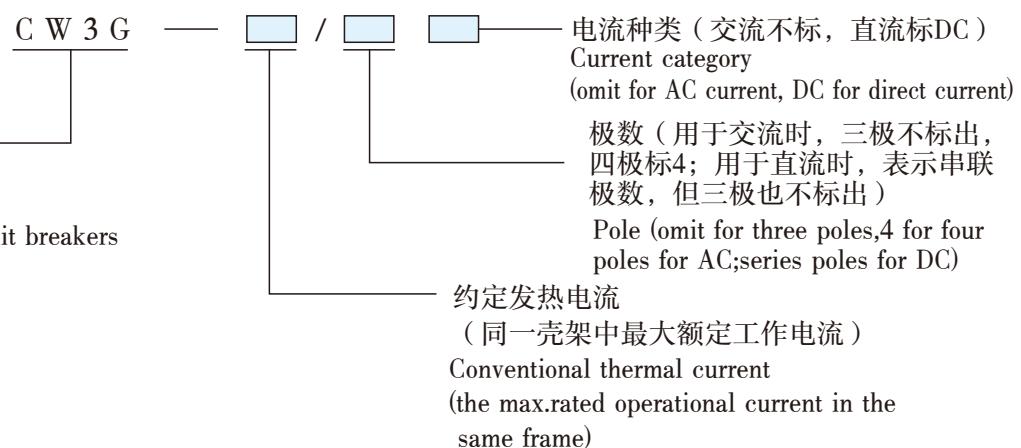
IEC60947-3及 GB/T14048.3-2017 Low-Voltage switchgear and controlgear switches, disconnectors, switch-disconnectors and fuse-combination units

- The product is permitted to use the CCC marking of CQC.



型 号 含 义 *TYPE AND ITS MEANING*

由CW3断路器派生的隔离开关
Switch-disconnector
derived from CW3 circuit breakers



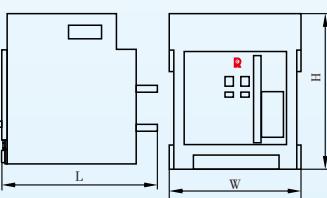


- 周围空气温度-5℃ ~ +40℃ ;
- 安装地点的海拔不超过2000m;
- 空气的相对湿度在最高温度为+40℃时不超过50%，在较低温度下可以允许有较高的相对湿度，例如20℃时达90%，对由于温度变化偶尔产生的凝露应采取特殊的措施;
- 污染等级为3级;
- 隔离开关通过GB/T2423.10试验要求可耐受频率为2Hz~13.2Hz、位移为±1mm及频率为13.2Hz~100Hz、加速度为±0.7g的机械振动;
- 隔离开关主电路的安装类别为IV，其余辅助电路、控制电路安装类别为III;
- 隔离开关适用于电磁环境A;
- 湿热带型（TH型）隔离开关通过GB/T2423.4、GB/T2423.18试验要求，能耐受潮湿空气、盐雾、油雾、霉菌的影响;
- 隔离开关安装的垂直倾斜度不超过5°；
- 隔离开关应安装在无爆炸危险和无导电尘埃、无足以腐蚀金属和破坏绝缘的地方;
- 隔离开关安装在柜体小室内，且加装门框，防护等级达IP40。
- 可运行条件:
隔离开关通过GB/T 2423.1和GB/T2423.2的试验要求，周围空气温度可低至-25℃、高至+70℃（超过+40℃降容使用，详见本样本中的功耗及降容系数）；
隔离开关通过GB/T2423.4试验Db（温度+55℃、相对湿度95%）要求；
海拔超过2000m降容使用，详见本样本中的高海拔降容；
● 储存条件：周围空气温度为-25℃~ +70℃。

- Ambient temperature: -5℃ ~ +40℃ ;
- Altitude ≤2000m
- Relative humidity: not exceed 50% at the maximum ambient temperature of +40℃, but higher relative humidity at the lower temperature, for example, 90% at 20℃. Special measures should be taken considering the dews on product surface due to temperature change;
- Pollution protection: 3 grade;
- The switch-disconnectors are tested by GB/T2423.10, can withstand vibration of frequency range 2Hz~13.2Hz, displacement ± 1mm and frequency range 13.2Hz~100Hz, acceleration ± 0.7g.
- Installing categories: IV for the main circuit; III for other auxiliary and control circuits;
- The switch-disconnectors are suitable in electromagnetic environment A;
- Damp heat type (TH) switch-disconnectors are tested by GB/T2423.4、GB/T2423.18, can bear the influence of moisture in the air of salt fog and oil fog or mould.
- The vertical gradient isn't more than 5。;
- There must be not any explosive medium, and there must be not any gas which would corrode metal or any conducting dust which would destroy the insulation;
- The switch-disconnectors should be installed in the compartment of switchgear cabinet and doorframe should be fixed additionally. Protection grade up to Ip40.
- Sevice condition:
The switch-disconnectors are tested by GB/T 2423.1 and GB/T2423.2, ambient temperature lower -25℃、higher +70℃ (temperature over +40℃, the switch-disconnectors are used by reducing capacity; please seeing "power consumption and capacity lowering coefficient");
The swith-disconnectors are tested by GB/T2423.4 test Db (temperature +55℃ , relative humidity 95%) ;
Elevation over 2000m, the switch-disconnectors are used by reducing capacity, please seeing "capacity-reducing for high-elevation" .
- Storage condiction: ambient temperature -25℃ ~+70℃.



CW3G交流隔离开关主要技术指标 MAIN TECHNICAL PARAMETERS FOR CW3G AC SWITCH-DISCONNECTOR

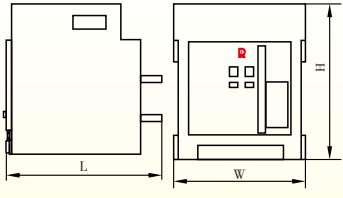
型号 Type		CW3G-2500			
最大约定发热电流I _{th} (A) Conventional thermal current I _{th} (A)		2500			
额定工作电流I _e (A) Rated operational current I _e (A)		630, 800, 1000, 1250, 1600, 2000, 2500			
额定工作电压U _e (V) Rated operational voltage U _e (V)		AC50Hz/400、690			
额定绝缘电压U _i (V) Rated insulation voltage U _i (V)		1000			
额定冲击耐受电压 U _{imp} (V) Rated impulse withstand voltage U _{imp} (V)		12000			
极数 Poles		3、4			
N极额定工作电流I _N Rated operational current of N-pole I _N (A)		100%I _e			
额定短路接通能力I _{cm} (kA)(峰值) Rated short-circuit making capacity I _{cm} (kA) (peak)		AC400V	143		
		AC690V	143		
额定短时耐受电流(1s)I _{cw} (kA)(有效值) Rated short-time withstand current I _{cw} (kA) (effective value)		AC400V	65		
		AC690V	65		
具有外部保护继电器，最大延时0.4s极限分断能力(kA) Limited breaking capacity at max. delay time 0.4s (with exterior protect relay) (kA)		AC400V	65		
使用类别 Utilization category		AC-22A, AC-23A			
电气寿命* (次times) Electrical durability		AC400V	Ie=630A~1250A:12500 Ie=1600A~2000A:10000 Ie=2500A:8000		
		AC690V	Ie=630A~1250A:12500 Ie=1600A~2000A:7000 Ie=2500A:5000		
机械寿命* (次times) Mechanical durability		免维护 Non-maintenance	12500		
		有维护 Maintenance	25000		
外形尺寸 	H × W × L Outline dimensions (mm)		W	H	L
	抽屉式 Draw-out	水平(后置) Horizontal(back set)	3P	347	438
			4P	442	438
		垂直(后置) Vertical(back set)	3P	347	438
			4P	442	438
	固定式 Fixed	水平联接 Horizontal	3P	362	395
			4P	457	395

*注：免维护寿命指电器在修理或更换部件前能完成的操作循环次数的期望值。

*Note: Non-maintenance durability expresses the expectancy of the number of operating cycles which can be performed by the equipment before repair or replacement parts.



CW3G直流隔离开关主要技术指标 MAIN TECHNICAL PARAMETERS FOR CW3G DC SWITCH-DISCONNNECTOR

型号 Type		CW3G-2500/DC			
最大约定发热电流Ith (A) Conventional thermal current Ith(A)		2500			
额定工作电流Ie(A) Rated operational current Ie (A)		630, 800, 1000, 1250, 1600, 2000, 2500			
额定工作电压Ue(V) Rated operational voltage Ue(V)		DC750、1000			
额定绝缘电压Ui(V) Rated insulation voltage Ui (V)		1000			
额定冲击耐受电压 Uimp (V) Rated impulse withstand voltage Uimp (V)		12000			
串联极数 Series poles		三极串/四极串			
额定短路接通能力Icm(kA)(峰值) Rated short-circuit making capacity Icm (kA) (peak)		DC750V	52.5		
		DC1000V	52.5		
额定短时耐受电流(1s)Icw(kA)(有效值) Rated short-time withstand current Icw (kA) (effective value)		DC750V	40		
		DC1000V	40		
		DC-22A, DC-23A			
具有外部保护继电器，最大延时0.4s极限分断能力(kA) Limited breaking capacity at max. delay time 0.4s (with exterior protect relay) (kA)		DC1000V	25		
电气寿命* (次times) Electrical durability		DC750V	2000		
		DC1000V	1500		
机械寿命* (次times) Mechanical durability		免维护 Non-maintenance	12500		
		有维护 Maintenance	25000		
外形尺寸 	H × W × L Outline dimensions (mm)		W	H	L
	抽屉式 Draw-out	水平(后置) Horizontal(back set)	三极串	347	438
			四极串	442	438
	垂直(后置) Vertical(back set)	三极串	347	438	395
			四极串	442	438
	固定式 Fixed	水平联接 Horizontal	三极串	362	395
			四极串	457	395

*注：免维护寿命指电器在修理或更换部件前能完成的操作循环次数的期望值。

*Note: Non-maintenance durability expresses the expectancy of the number of operating cycles which can be performed by the equipment before repair or replacement parts.



结构简介 SYNOP OF STRUCTURE

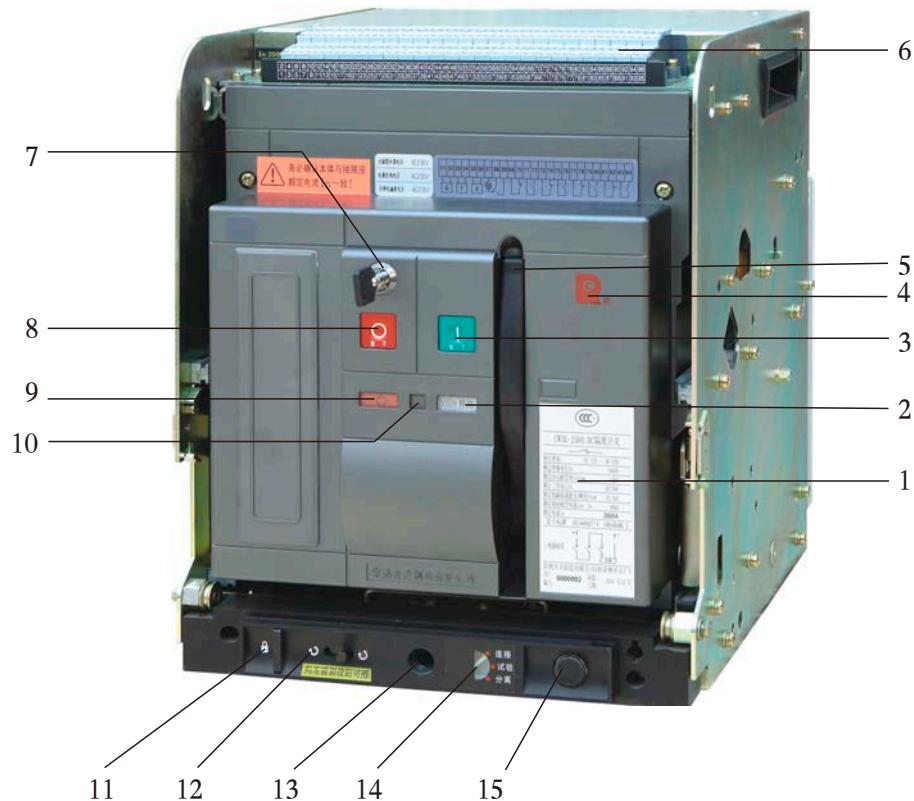


- 1 铭牌
- 2 贮能释能指示
- 3 合闸按钮
- 4 商标
- 5 手动贮能手柄
- 6 二次回路接线端子
- 7 “分闸”锁定装置
- 8 分闸按钮
- 9 合闸“I”、分闸“O”指示
- 10 合闸准备就绪时指示“OK”
- 11 抽屉式“分离”位置安全挂锁装置
- 12 抽屉式“分离”、“试验”、“连接”三位置“解锁拨钮”
- 13 抽屉式摇杆工作孔
- 14 抽屉式“分离”、“试验”、“连接”三位置指示
- 15 抽屉式摇杆存放孔

- 1 Nameplate
- 2 Indications of charging and discharging
- 3 Closing button
- 4 Brand
- 5 Manual charging handle
- 6 Terminals of secondary circuit
- 7 “opening” lock mechanism
- 8 Opening button
- 9 Indication of closing (“I”) and opening (“O”)
- 10 Indication of ready-for-close (“OK”）
- 11 Safety padlock mechanism as the draw-out indicates the position of “separated”
- 12 "Unlock button" of the three positions ("separated", "test" and "connected") for draw-out
- 13 Rocker operating hole of the draw-out
- 14 Indications of the three positions ("separated", "test" and "connected") of the draw-out
- 15 Rocker storage hole of the draw-out



结构简介 SYNOP OF STRUCTURE



注:

1 “分离”：指示主回路与二次回路均为隔离状态；

“试验”：指示主回路为隔离状态，二次回路为连接状态；

“连接”：指示主回路与二次回路均为连接状态。

2 当本体被摇至“分离”或“试验”或“连接”位置时即可被自动锁定（摇杆不可再摇动），可通过向左拨动“解锁按钮”解锁。

Note:

1 "Separated": indicates that main circuit and secondary circuit are both in isolation.

"Test": indicates that main circuit is in isolation and secondary circuit is in connection.

"Connected": indicates that main circuit and secondary circuit are both in connection.

2 The switch-disconnector can be automatically locked (rocker can not be turned at this point) when its main part is at the position of "separated", "test" or "connected" by turning the rocker, and can be unlocked by pushing "unlock button" to the left side.



结构简介 SYNOP OF STRUCTURE

- 抽屉式隔离开关的抽屉座
- Draw-out socket of draw-out switch-disconnector

抽屉式隔离开关的抽屉座具有隔离主回路母排的挡板，当抽出时起安全保护作用。

The draw-out socket has the back plate for isolating the copper bar of the main circuit, which takes the role of safety protection when the switch-disconnector is draw out.



- 16 安装孔
- 17 安全挡板
- 18 二次回路接线端子
- 19 侧板

- 16 Installation hole
- 17 Safety back plat
- 18 Wiring terminals of secondary circuit
- 19 Side plate



附件 ACCESSORIES

- 分励脱扣器 Shunt release

可远距离操纵使隔离开关断开 To break the circuit breaker by remote control

特性 Characteristics

额定控制电源电压Us(V) Rated voltage of control power supply	AC400	AC230	DC220	DC110
动作电压(V) Operating voltage	(0.7~1.1)Us			
瞬时电流(A) Instantaneous current	0.5	0.9	0.9	1.8
分闸时间(ms) Opening time	不大于30 No more than 30			



- 合闸电磁铁 Closing electromagnet

贮能结束后，合闸电磁铁能使操作机构的贮能弹簧力瞬间释放，使隔离开关快速闭合。

After the circuit breaker ends up its energy storage the closing electromagnet will make the energy storing spring to release its energy instantly so that the circuit breaker is closed quickly.

特性 Characteristics

额定控制电源电压Us(V) Rated voltage of control power supply	AC400	AC230	DC220	DC110
动作电压(V) Operating voltage	(0.85~1.1)Us			
瞬时电流(A) Instantaneous current	0.5	0.9	0.9	1.8
合闸时间(ms) Closing time	不大于70 No more than 70			



- 电动操作机构 Motor driven operating mechanism

隔离开关具有电动机贮能及自动再贮能功能，亦可手动贮能。

The circuit breaker has the function of motor driven energy storage and automatic energy-restoring.
The energy storage can also be done manually.

特性 Characteristics

额定控制电源电压Us(V) Rated voltage of control power supply	AC400	AC230	DC220	DC110
动作电压(V) Operating voltage	(0.85~1.1)Us			
功耗 Power loss	192VA		192W	
储能时间(s) Charging time	不大于5			





附件 ACCESSORIES

- 辅助开关 Auxiliary switch

额定值 Rated value

额定工作电压(V) Rated operational voltage		约定发热电流Ith(A) Conventional thermal current	额定控制容量 Rated capacity
AC	230	6	300VA
	400		
DC	220	6	60W
	110		



- 抽屉式隔离开关“分离”位置安全挂锁装置

抽屉式断路器处于“分离”位置时，可拔出锁杆来锁定，锁定后开关将无法摇至“试验”或“连接”位置。

挂锁用户自备。

Safety padlock mechanism of draw-out circuit breakers at the position of "separated"

When the draw-out circuit breaker indicates the positions of "separated" the locking stick can be locked with padlock after pulling out so that the rocker of the circuit breaker can not be turned to the position of "test" or "connected".

Padlock should be provided by users themselves

- “分闸”锁定装置 "opening" locking mechanism

“分闸”锁定装置可将隔离开关的断开按钮锁定在分闸位置上，此时，隔离开关将不能闭合。

"opening" locking mechanism can lock the "OFF" button of the circuit breaker on the opening position. As a result, the switch-disconnector can not be closed.



“分离”位置安全挂锁装置
Safety padlock mechanism at the position of "separated"



“分闸”锁定装置
"Opening" locking mechanism



按钮锁定装置
Pushbutton locking device

- 按钮锁定装置 "Pushbutton" locking device

加装按钮锁定装置可防止误操作合闸或分闸按钮。

挂锁用户自备，锁杆直径Φ4~Φ8mm。

When "Pushbutton" locking device is installed it can prevent somebody from operating button of closing or opening by mistake.

Padlock should be provided by users themselves, and its rod should be Φ4~Φ8mm.



附件 ACCESSORIES

● 计数器 Counter

计数器累计隔离开关机械操作的次数，用户一目了然。

The counter can count mechanical operation times accumulatively and an exact number is presented.



● 相间隔板 Interphase barriers

相间隔板加强母排间绝缘，为隔离开关选择件，用户需要时可配置。

Interphase barriers which strengthen insulation between bus-bars are optional and will be equipped when users need.



相间隔板
Interphase barriers



功耗及降容系数 POWER LOSS AND DERATING COEFFICIENT

功耗（环境温度+40℃）

Power loss (environment temperature +40°C)

功耗是在通以最大约定发热电流情况下测量的总的损耗。

Power loss is the overall consumption measured with the switch-disconnector which is electrified with current Inm.

型号 Type	三极/四极 功耗 (W) Three/Four-poles power loss	
	固定式 Fixed type	抽屉式 Draw-out type
CW3G-2500	400	564

降容系数 Derating coefficient

下表表示隔离开关在所处周围工作环境温度且满足GB/T14048.3中约定发热条件下持续承载电流的能力。
The following table shows continual current-loading capacity of switch-disconnector at different ambient environment temperature and under the conditions of the satisfaction of conventional heating in GB/T14048.3.



功耗及降容系数 POWER LOSS AND DERATING COEFFICIENT

型号 Type	额定电流 (A)	周围工作环境温度 °C Ambient environment temperature						
		+40	+45	+50	+55	+60	+65	+70
CW3G-2500	630	1	1	1	1	1	1	1
	800	1	1	1	1	1	1	1
	1000	1	1	1	1	1	1	1
	1250	1	1	1	1	1	1	1
	1600	1	1	1	1	1	1	1
	2000	1	1	1	1	1	1	1
	2500	1	1	1	1	0.99	0.94	0.89

注:1、表中参数仅作为一般选型指导, 鉴于开关柜形式和使用条件的多样性, 实际应用中不同的解决方案必须进行试验验证。

2、表中参数是基于推荐接线铜排规格参考表, 主回路接线端子温度为120°C。

1、Parameter listed in the table is only for ordinary select guide, since switchgears have various forms and use condition, different solutions in real applications must be tested before.

2、Parameter listed in table is based on the recommended wiring copper bus bar, and wiring terminal temperature of main circuit is 120°C.



高海拔降容 ALTITUDE DERATING

海拔超过适用工作环境的2000m, 电气性能可参照下表修正:

If altitude exceeds work environment for 2000m the electric property of switch-disconnector can be corrected according to the following table.

海拔(m) Altitude		2000	3000	4000	4500	5000
工频耐压(V) Power-frequency withstand voltage		3500	3500	3000	2500	2200
最大额定工作电压 (v) MAX rated operational voltage	AC	690	690	690	690	560
	DC	1000	1000	1000	1000	1000
工作电流修正系数 Correction factor of operational current		1	1	1	1	0.97



隔离开关主回路接线铜排规格参考表 REFERENCE TABLE OF MAIN CIRCUIT WIRING COOPER BAR FOR SWITCH-DISCONNECTOR

型号 Type	额定工作电流Ie(A) Rated current	铜排规格 Specification of cooper bars	
		根数 Number	尺寸(mm × mm) Size
CW3G-2500	630	2	50 × 5
	800	2	60 × 5
	1000	2	60 × 5
	1250	3	60 × 5
	1600	2	60 × 10
	2000	3	60 × 10
	2500	4	60 × 10

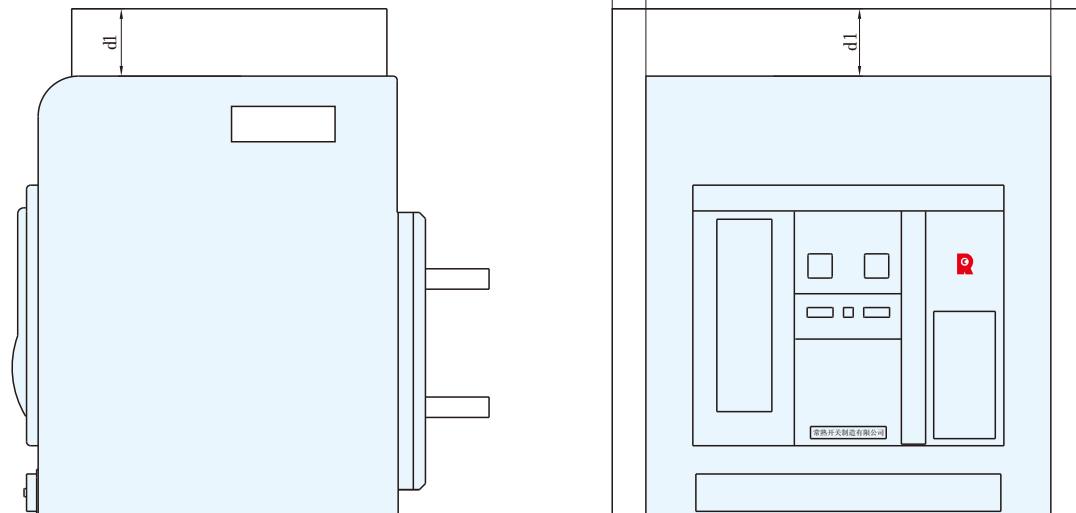
表中规格为隔离开关处于周围环境温度最高40°C, 敞开安装且满足GB/T14048.3中约定发热条件。

The specification of cooper bars in the above table are introduced under the conditions that the switch-disconnectors open installed are at the maximum ambient environment temperature of 40°C and satisfy conventional heating in GB/T14048.3.



安装安全间隙 MOUNTING SAFETY CLEARANCE

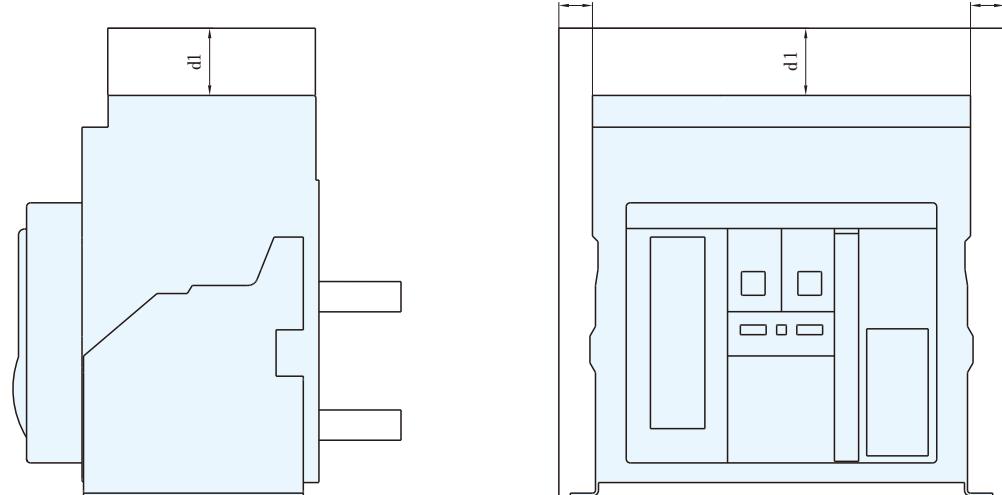
● 抽屉式 Draw-out



隔离开关与柜壁或带电部件最小距离
Minimn distance between breaker with switchboard wall or live part.

	柜壁 Switchboard wall	带电部分 Live part
d1(注note)(mm)	0	60
d2(mm)	0	60

● 固定式 Fixed



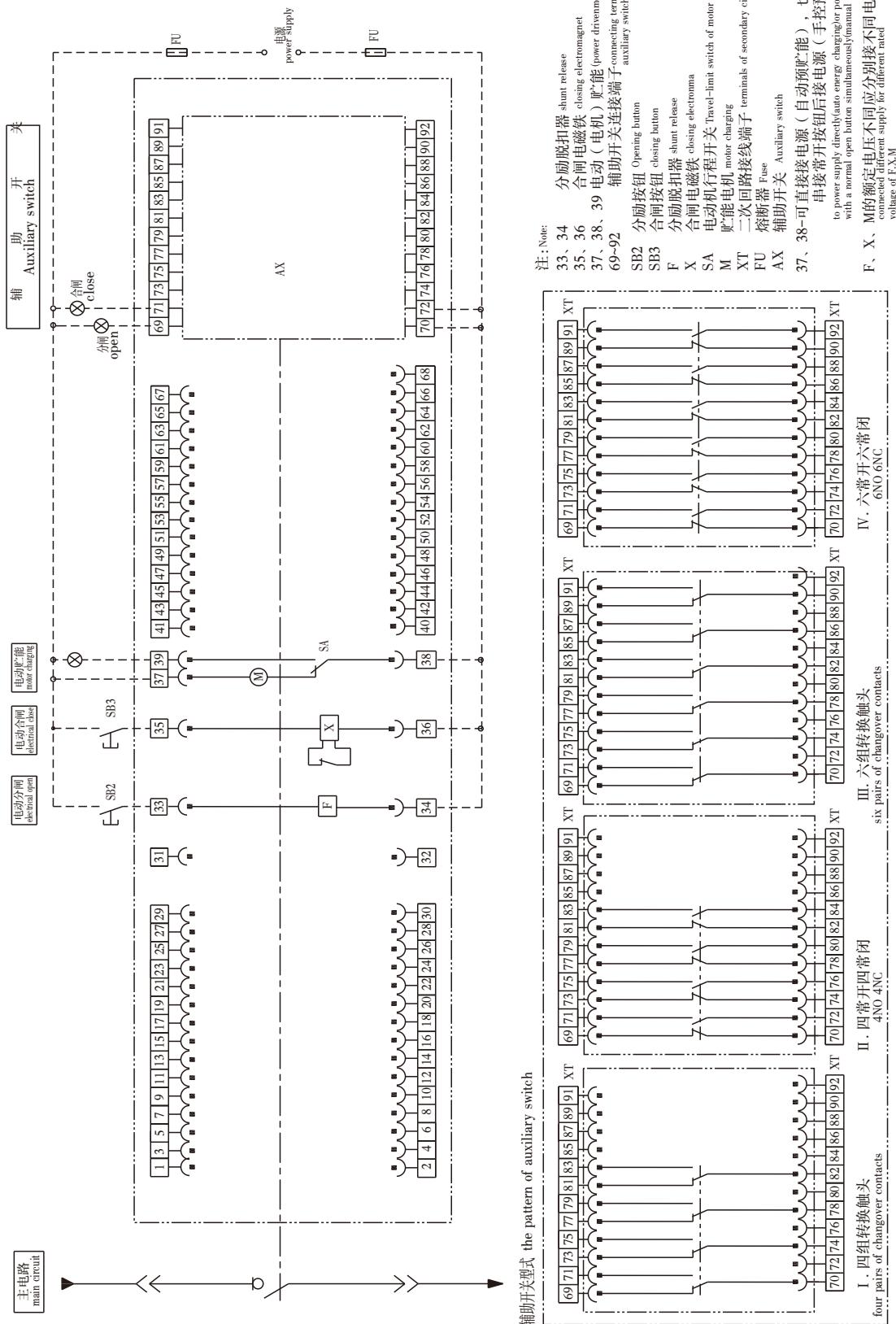
隔离开关与柜壁或带电部件最小距离
Minimn distance between breaker with switchboard wall or live part.

	柜壁 Switchboard wall	带电部分 Live part
d1(注note)(mm)	0	60
d2(mm)	0	60

注：安全间隙要考虑两次回路的走线。
Note:secondary circuit wiring must be considered for safety clearance.



CW3G交直流隔离开关二次回路接线图 SECONDARY CIRCUIT WIRING DIAGRAM FOR CW3G AC OR DC SWITCH-DISCONNECTOR

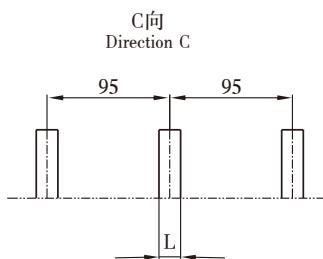
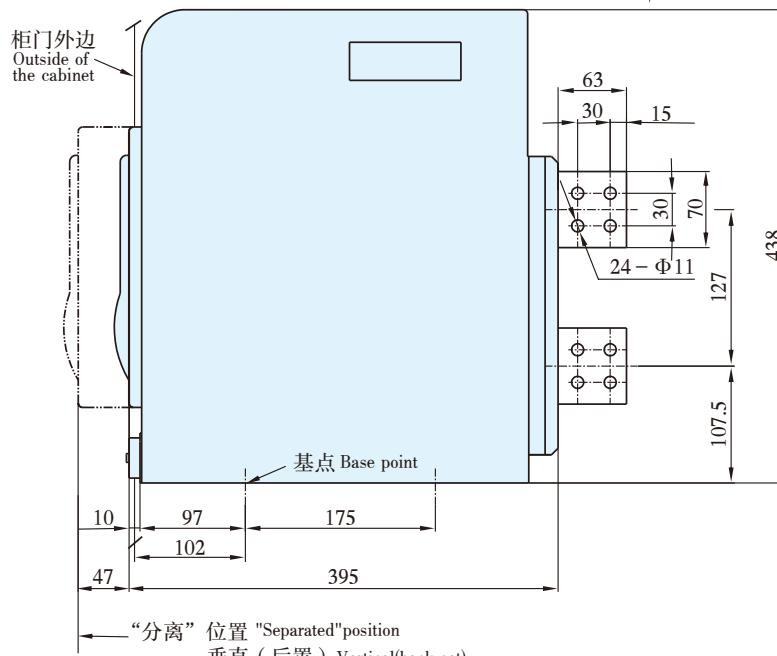
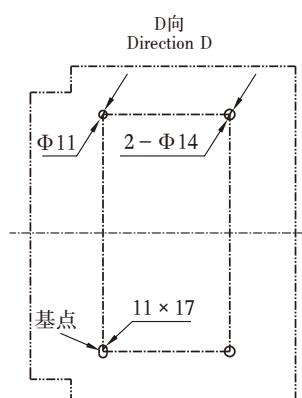
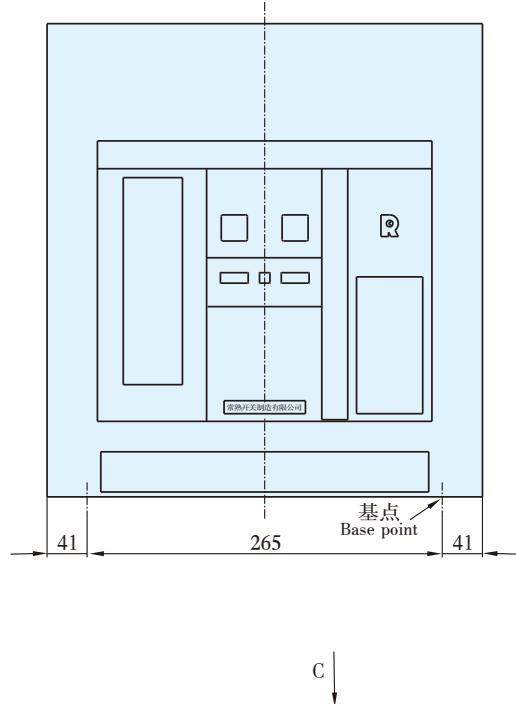
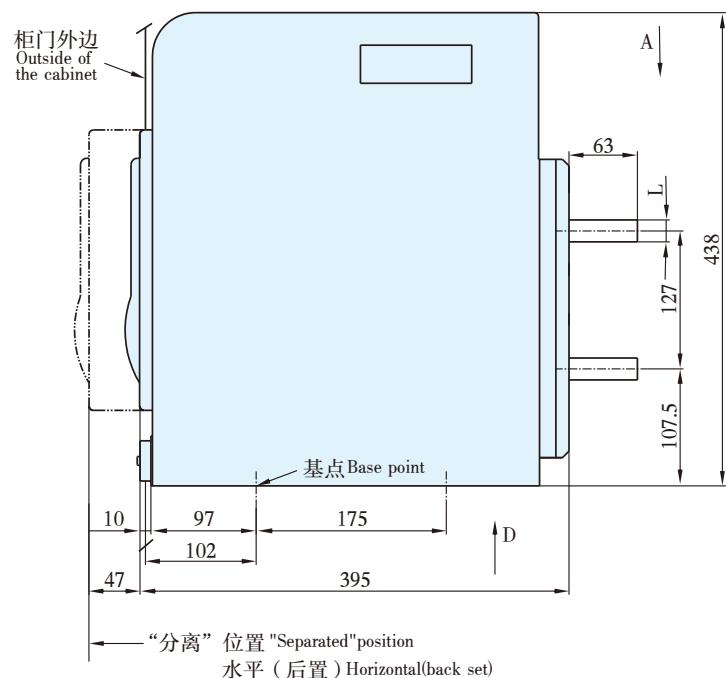
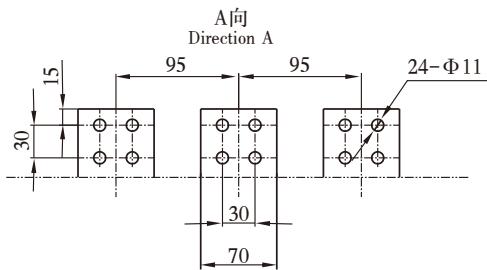




CW3G交流隔离开关外形尺寸和安装尺寸
OUTLINE DIMENSIONS AND MOUNTING DIMENSIONS FOR CW3G AC SWITCH-DISCONNECTOR

CW3G-2500三极隔离开关(抽屉式交流型)
 CW3G-2500 three poles switch-disconnector(draw-out,AC type)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



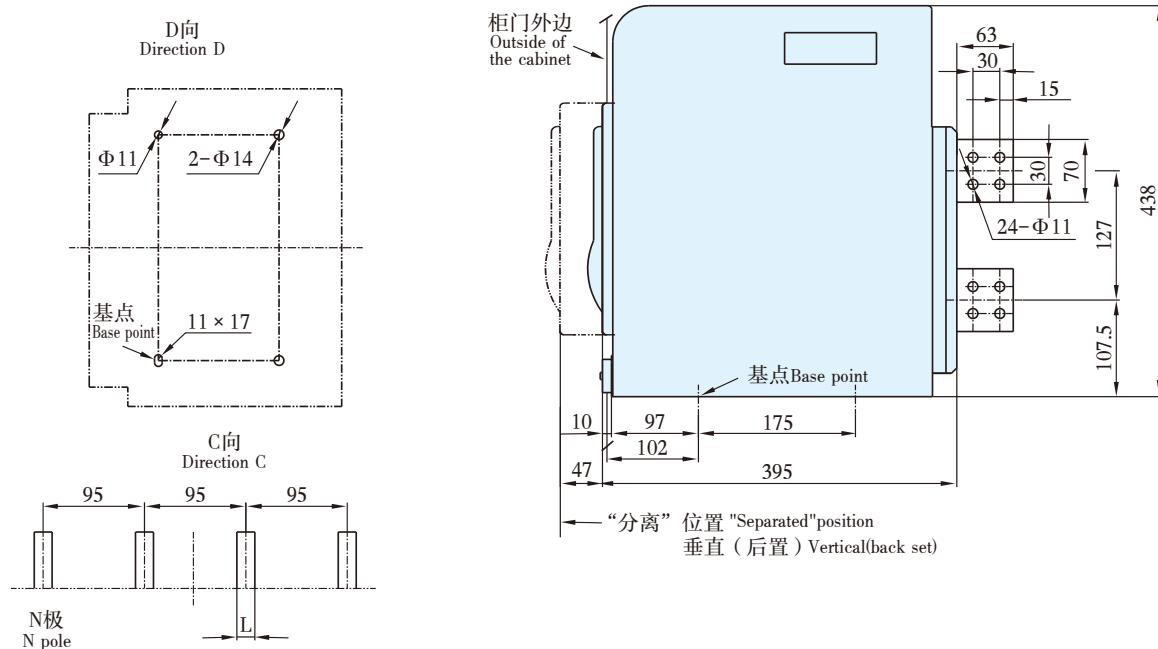
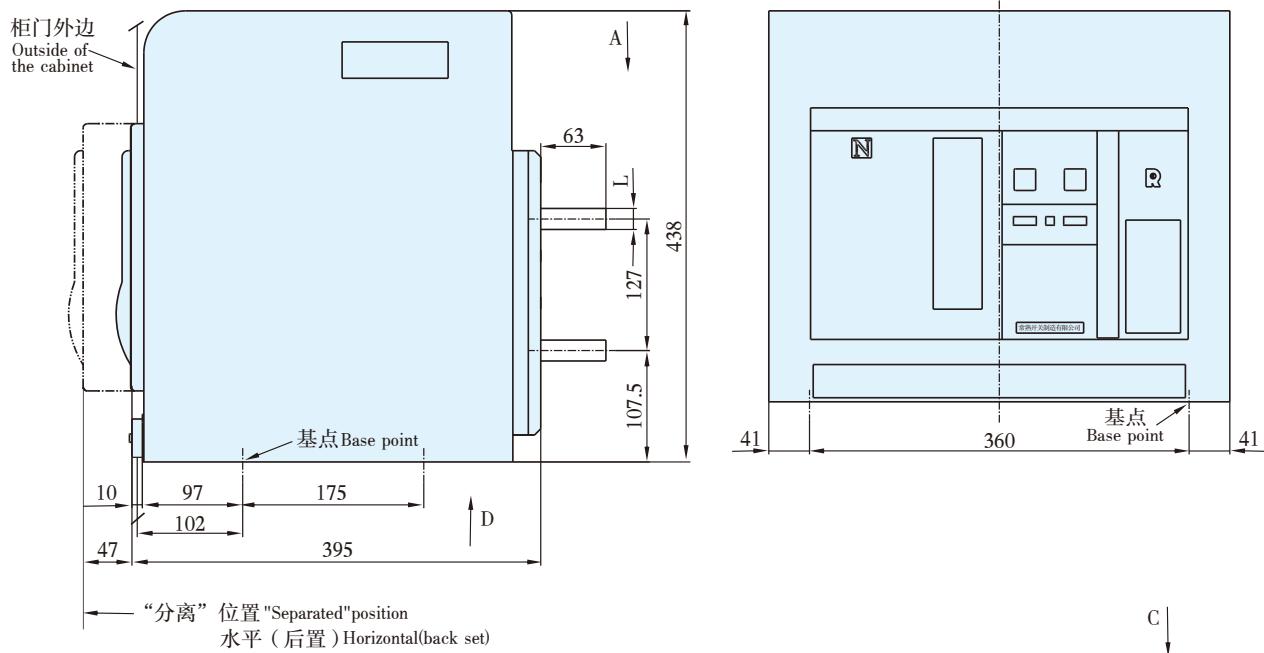
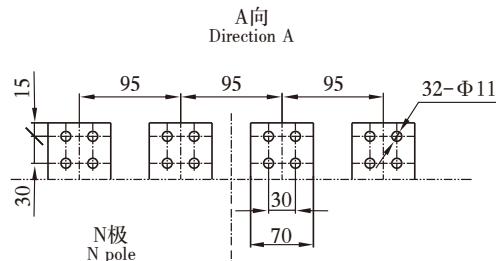


CW3G交流隔离开关外形尺寸和安装尺寸

OUTLINE DIMENSIONS AND MOUNTING DIMENSIONS FOR CW3G AC SWITCH-DISCONNECTOR

CW3G-2500四极隔离开关 (抽屉式交流型)
CW3G-2500 four pole switch-disconnector(draw-out,AC type)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15

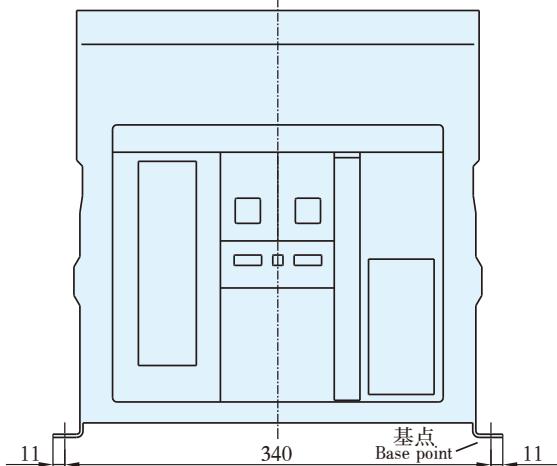
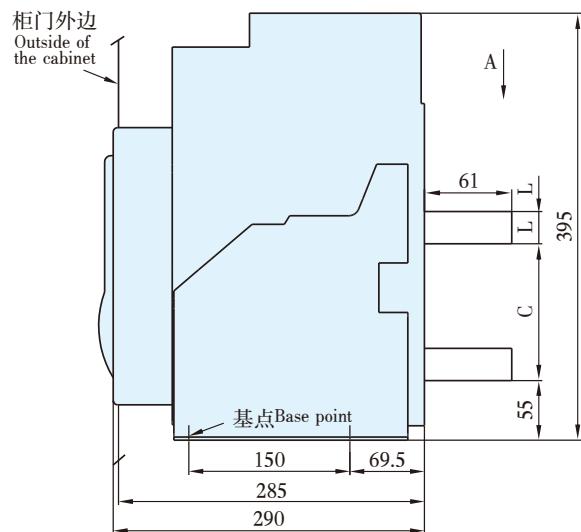
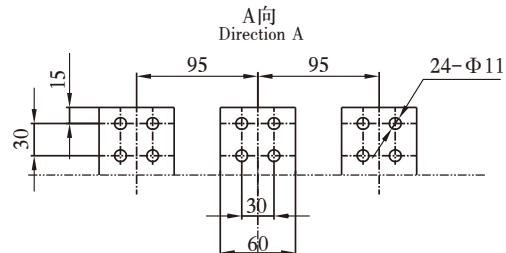




CW3G交流隔离开关外形尺寸和安装尺寸
OUTLINE DIMENSIONS AND MOUNTING DIMENSIONS FOR CW3G AC SWITCH-DISCONNECTOR

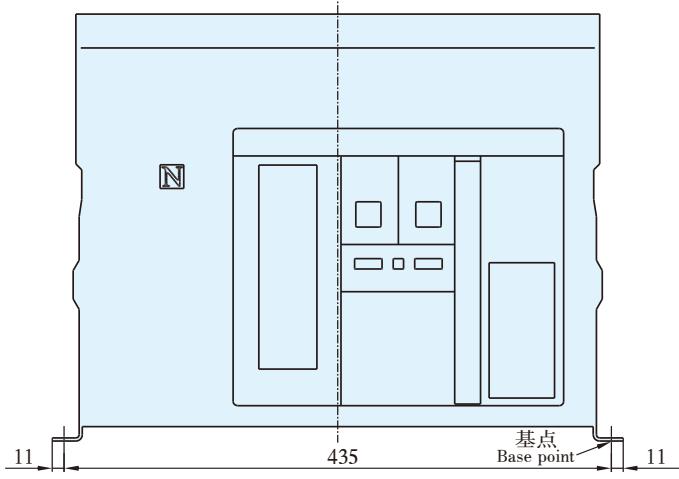
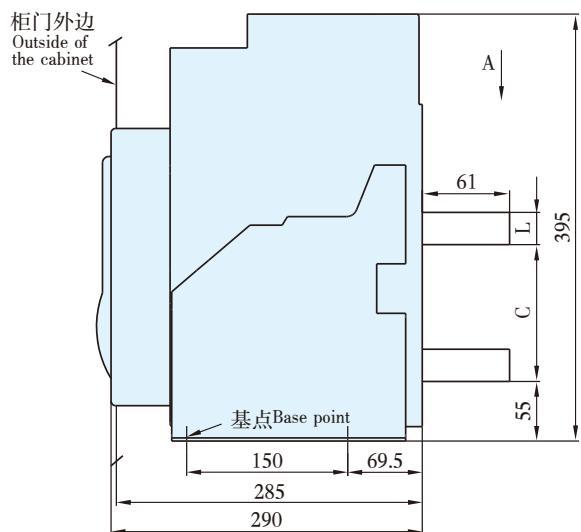
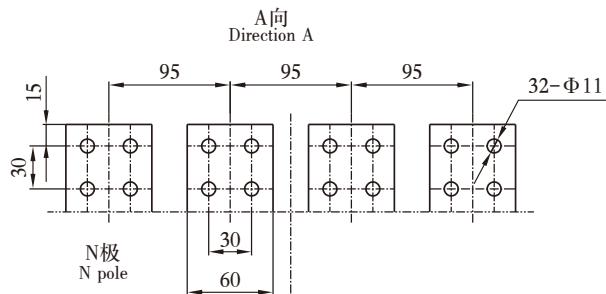
CW3G-2500三极隔离开关（固定式交流型）
CW3G-2500 three poles switch-disconnector(Fixed,AC type)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	132
630A~1600A	15	134.5



CW3G-2500四极隔离开关（固定式交流型）
CW3G-2500 four pole switch-disconnector(Fixed,AC type)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	132
630A~1600A	15	134.5





CW3G交流隔离开关门框开孔尺寸

CUTOUT DIMENSIONS OF THE DOORFRAME FOR CW3G AC SWITCH-DISCONNECTOR

CW3G-2500三极隔离开关（抽屉式）

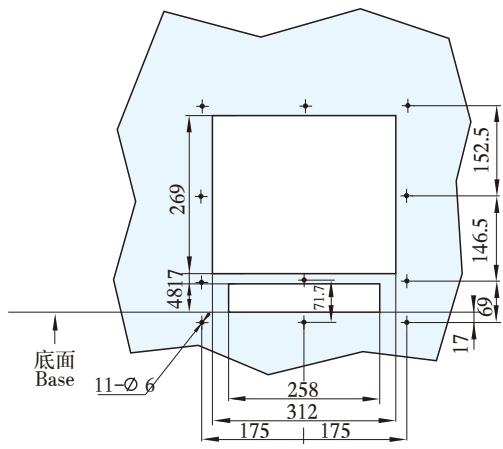
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为256mm

CW3G-2500switch-disconnector with three poles (draw-out type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 256mm



CW3G-2500三极隔离开关（固定式）

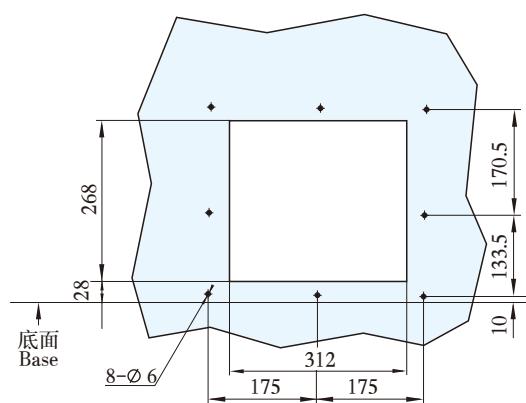
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为256mm

CW3G-2500 switch-disconnector with three poles (fixed type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 256mm



CW3G-2500四极隔离开关（抽屉式）

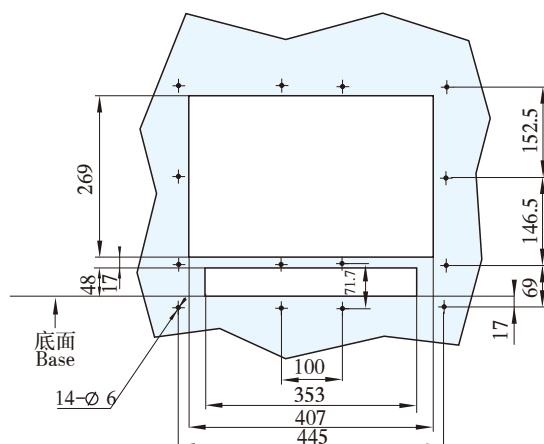
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为303.5mm

CW3G-2500 switch-disconnector with four poles (draw-out type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 303.5mm



CW3G-2500四极隔离开关（固定式）

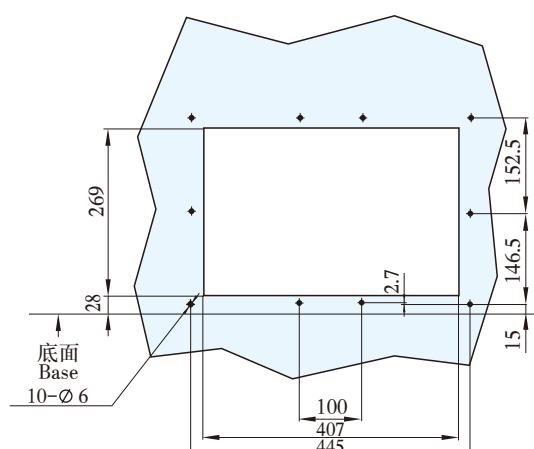
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为303.5mm

CW3G-2500 switch-disconnector with four poles (fixed type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 303.5mm





直流系统中隔离开关接线方式 Connected type of switch-disconnector for DC system

三极串隔离开关 Three series switch-disconnector

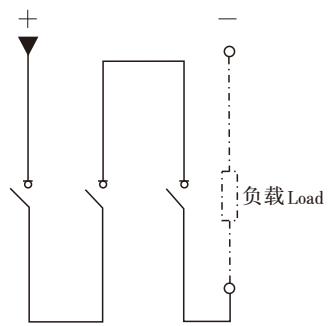
——A型接线方式 A connected type

——B型接线方式 B connected type

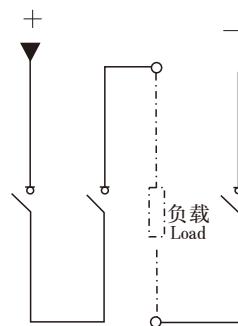
四极串隔离开关 Four series switch-disconnector

——C型接线方式 C connected type

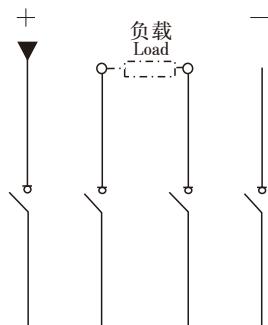
——D型接线方式 D connected type



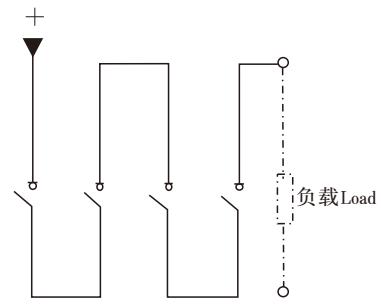
A型接线方式
A connected type



B型接线方式
B connected type



C型接线方式
C connected type



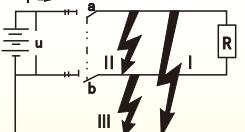
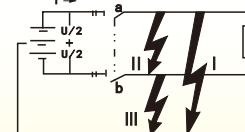
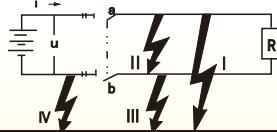
D型接线方式
D connected type



直流系统应用 Application for D.C system

在直流系统中选择开关电器主要考虑以下方面: in d.c. system , choosing a switch-disconnector is in consideration of the followings:

- 额定工作电压, 考虑分断的串联极数
1、 rated operation voltage , in consideration of breaking number of poles in series
- 额定电流, 考虑负载功率
2、 rated current,in consideration of load power
- 接地系统方式 (如下所示)
3、 manner of ground system (as follows)

系统类型 system catalog	接地系统 ground system		不接地系统 no grounding system
	负极接地 negative pole grounding	中心点接地 core point grounding	
各种故障类型 all offault catalog			
故障影响 fault effect	故障 I Fault I	接电源正极触头的电压为U voltage U of the positive pole contact connected to power	接电源正极触头的电压为U/2 voltage U/2 of the positive pole contact connected to power
	故障 II Fault II	串联的触头电压为U voltage U of the contacts in series	串联的触头电压为U voltage U of the contacts in series
	故障 III Fault III	无影响 no effect	接电源负极的触头电压为U/2 voltage U/2 of the negative pole contact connected to power
	故障 I 和 IV Fault I and IV at same time	—	接电源正极或负极触头的电压为U voltage U of the positive or negative pole contact connected to power
最严重情况 the most serious condition	故障 I fault I	故障 I 和 III Fault I and fault III	同时发生故障 I 和 IV Fault I and IV at same time
解决方案 Item	可在正极串联 can be in series on the positive pole	电源正负极都接触头	可在正负极串联 can be in series on the positive or negative pole

CW3G直流隔离开关适用的不同电源系统/负载接线方法
suitable different power system / load wiring manner for CW3G switch-disconnector

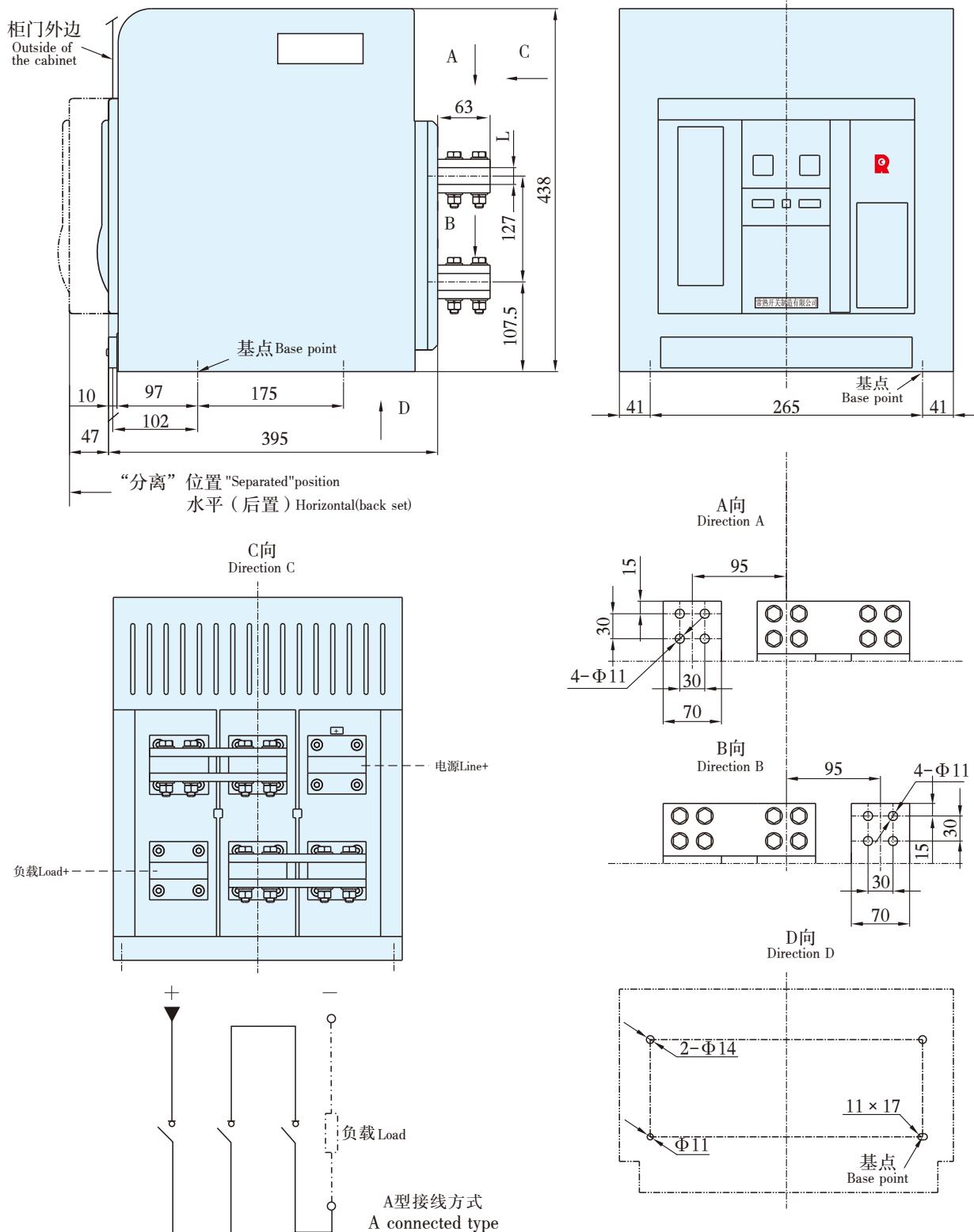
额定电压 Rated operational voltage	电源/负载接线方式 Power/load wiring manner		
	不接地系统 No grounding system	负极接地系统 Negative point grounding system	中心点接地系统 Core point grounding system
DC750V	C	A	B
DC1000V	C	D	C



CW3G直流隔离开关外形安装尺寸和接线方式
OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关 (直流A型接线方式, 抽屉式水平后置)
CW3G-2500/DC switch-disconnector(A connected type for DC,
draw-out and horizontal back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



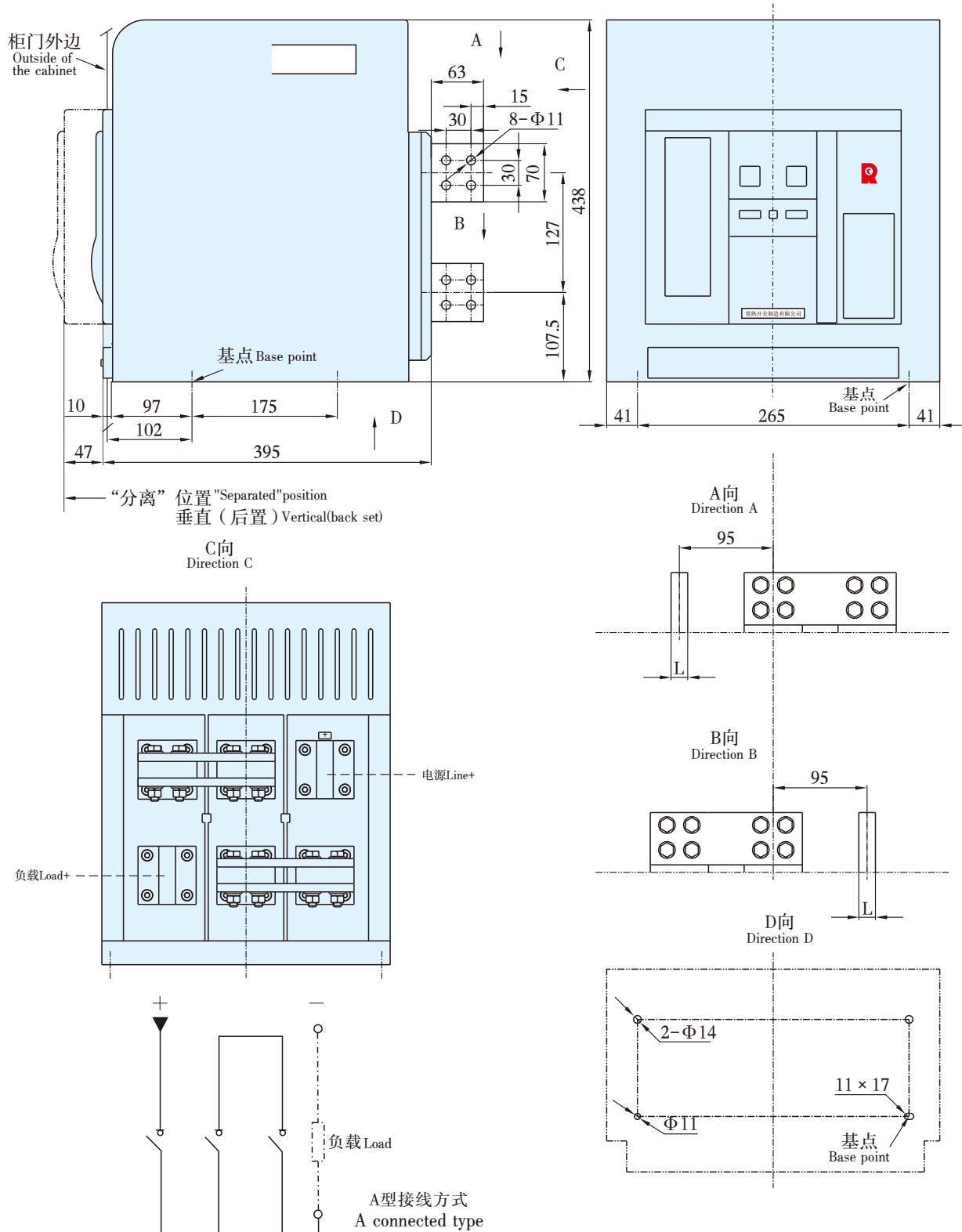


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关（直流A型接线方式，抽屉式垂直后置）
 CW3G-2500/DC switch-disconnector(A connected type for DC, draw-out and vertical back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



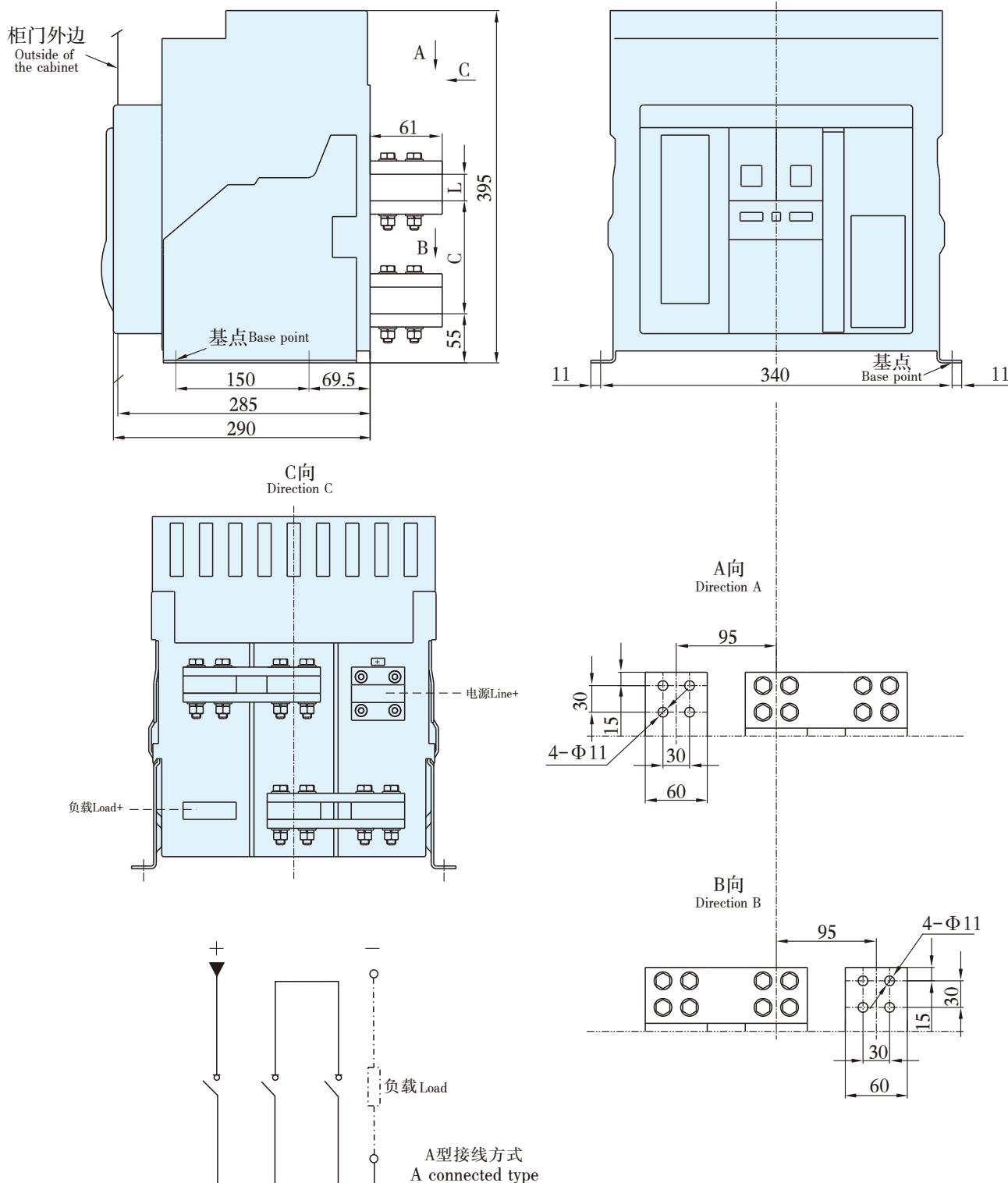


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关（直流A型接线方式，固定式）
CW3G-2500/DC switch-disconnector(A connected type for DC,fixed)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	132
630A~1600A	15	134.5



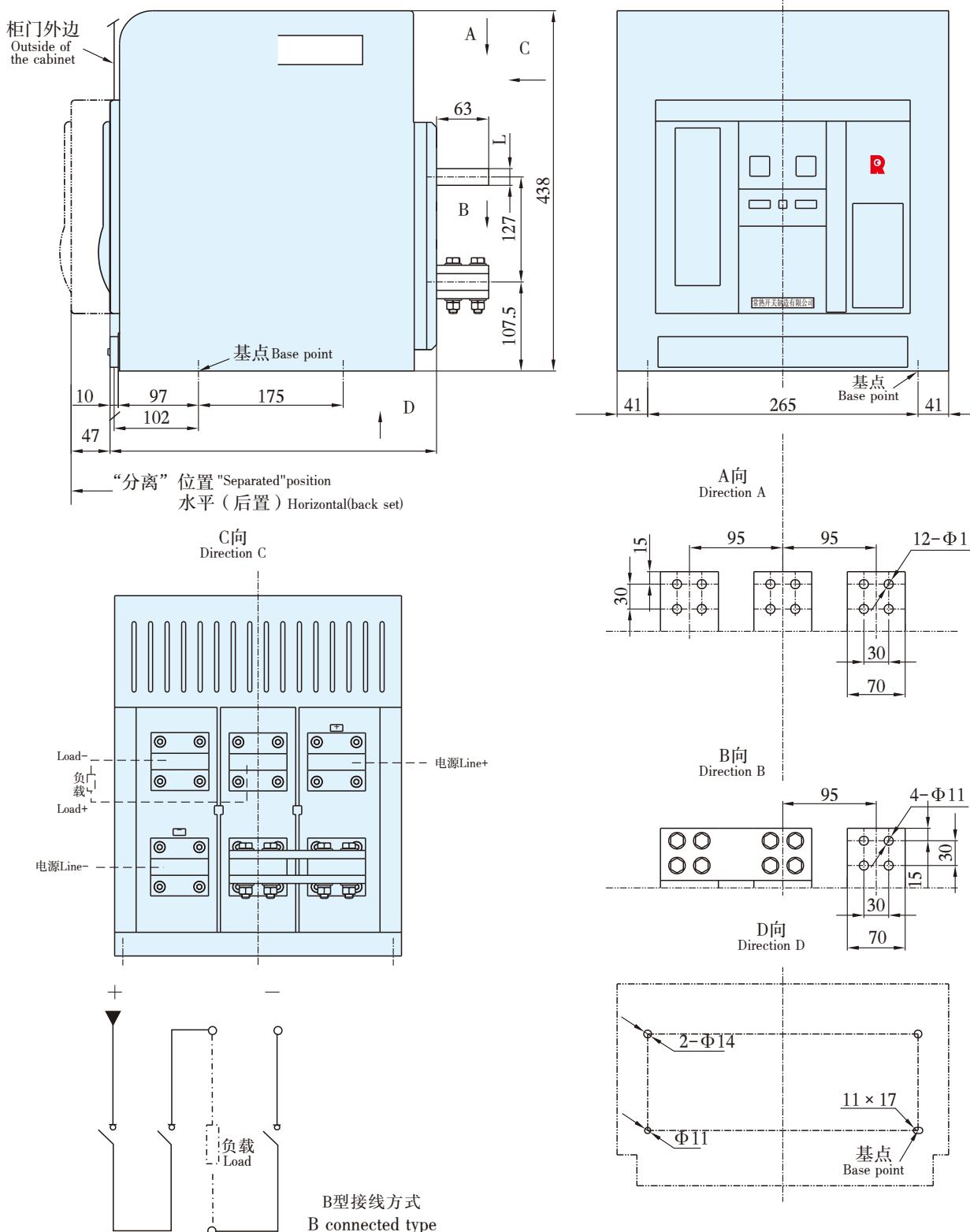


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关 (直流B型接线方式, 抽屉式水平后置)
 CW3G-2500/DC switch-disconnector(B connected type for DC,
 draw-out and horizontal back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



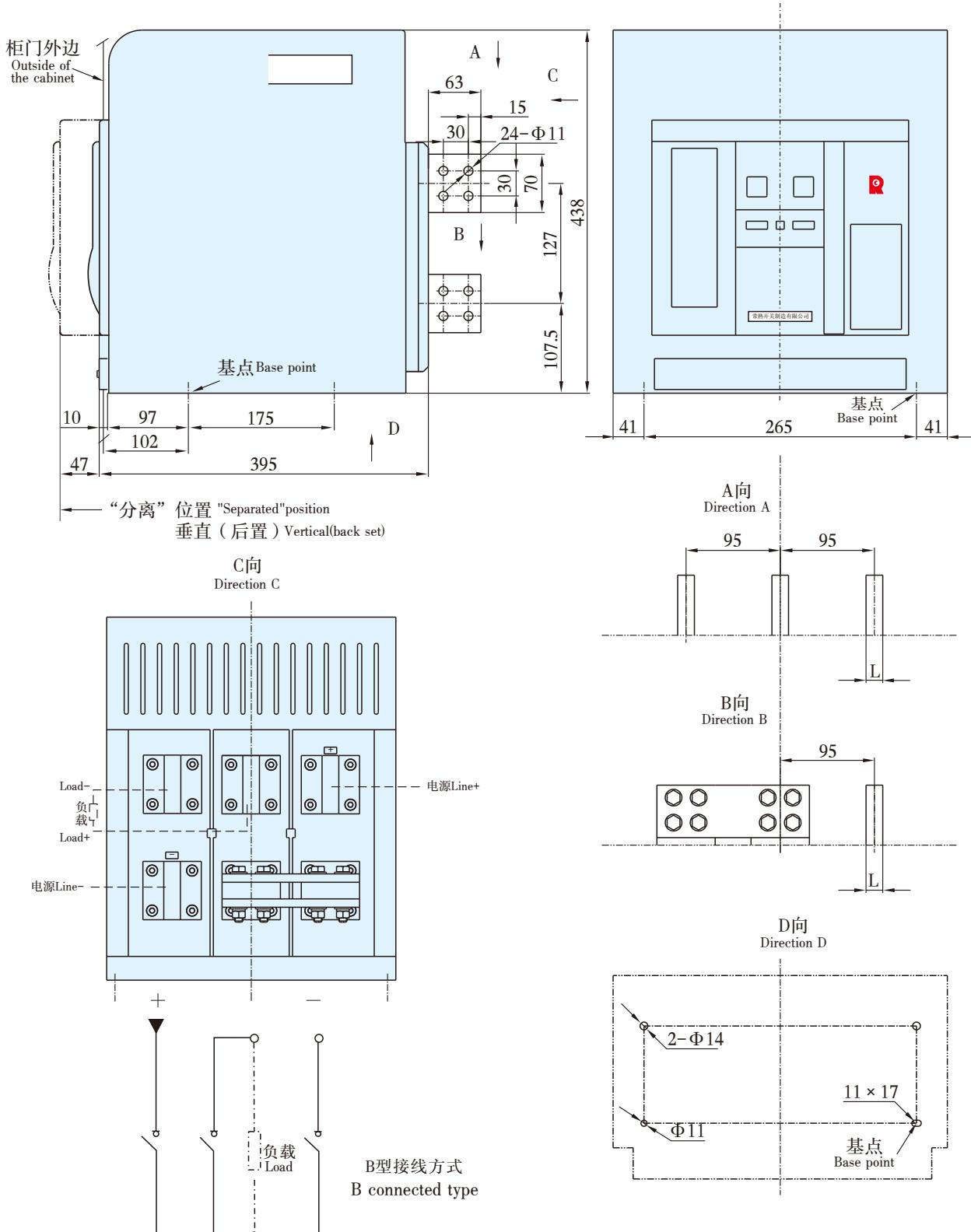


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关 (直流B型接线方式, 抽屉式垂直后置)
 CW3G-2500/DC switch-disconnector(B connected type for DC,
 draw-out and vertical back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



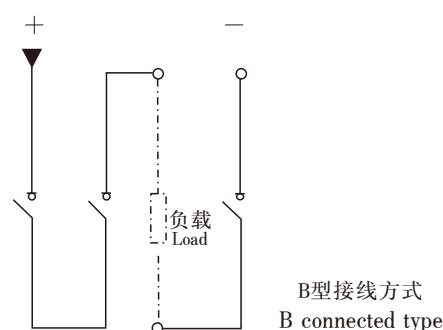
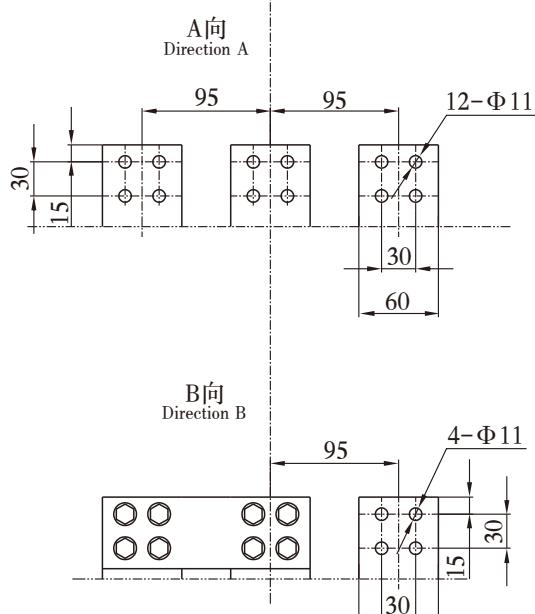
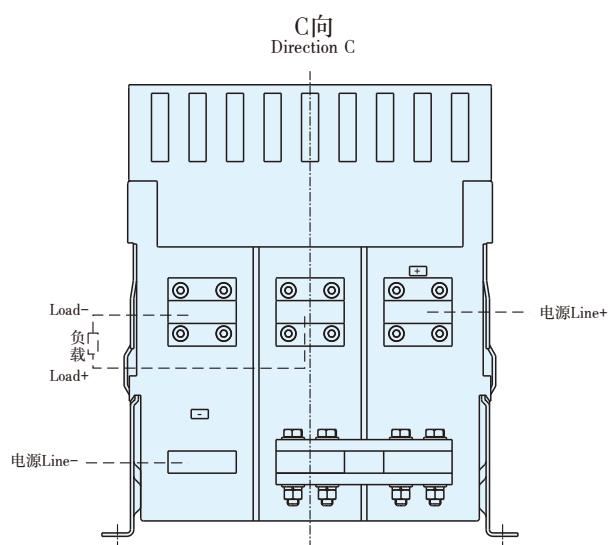
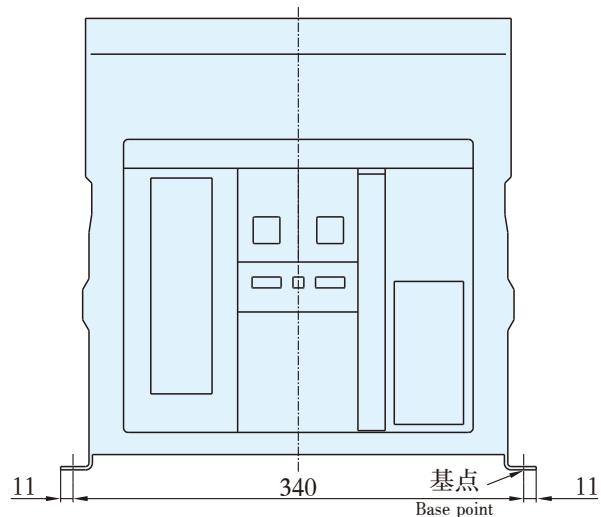
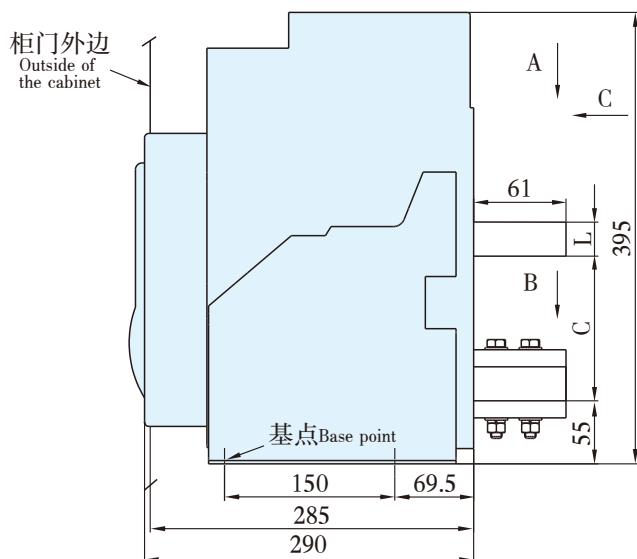


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关（直流B型接线方式，固定式）
 CW3G-2500/DC switch-disconnector(B connected type for DC,fixed)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	132
630A~1600A	15	134.5



B型接线方式
B connected type

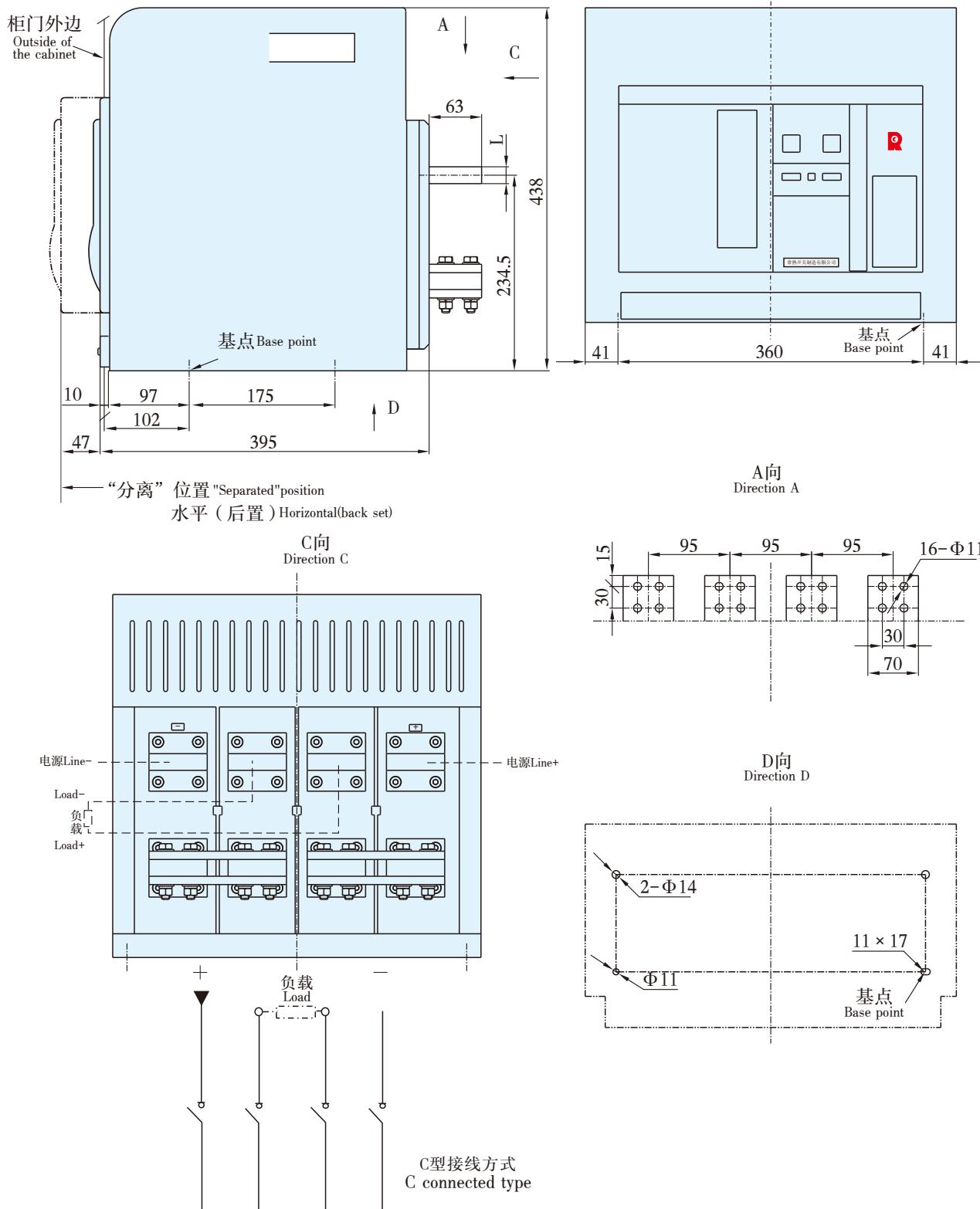


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关 (直流C型接线方式, 抽屉式水平后置)
 CW3G-2500/4DC switch-disconnector(C connected type for DC,
 draw-out and horizontal back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



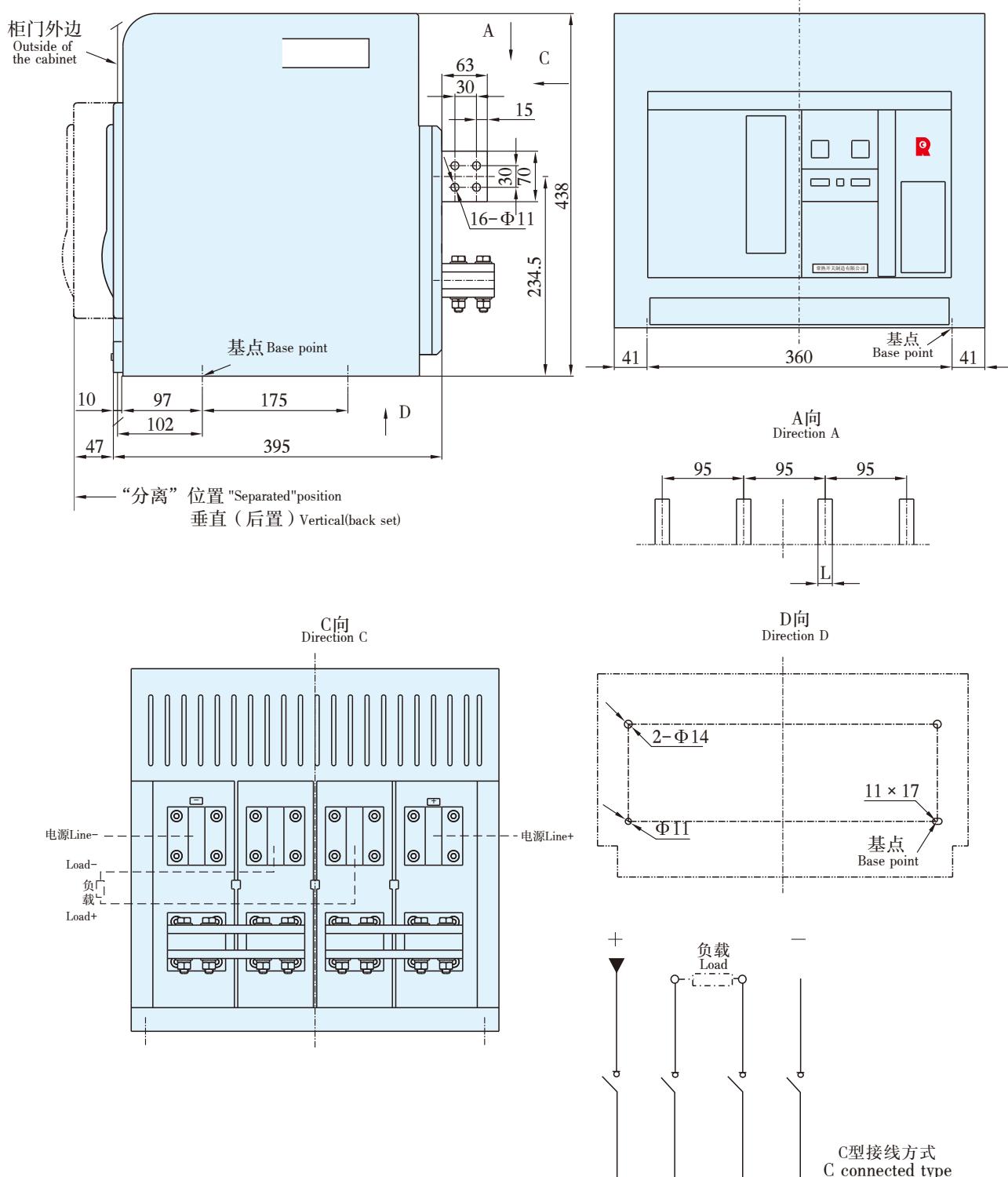


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关 (直流C型接线方式, 抽屉式垂直后置)
 CW3G-2500/4DC switch-disconnector(C connected type for DC,
 draw-out and vertical back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



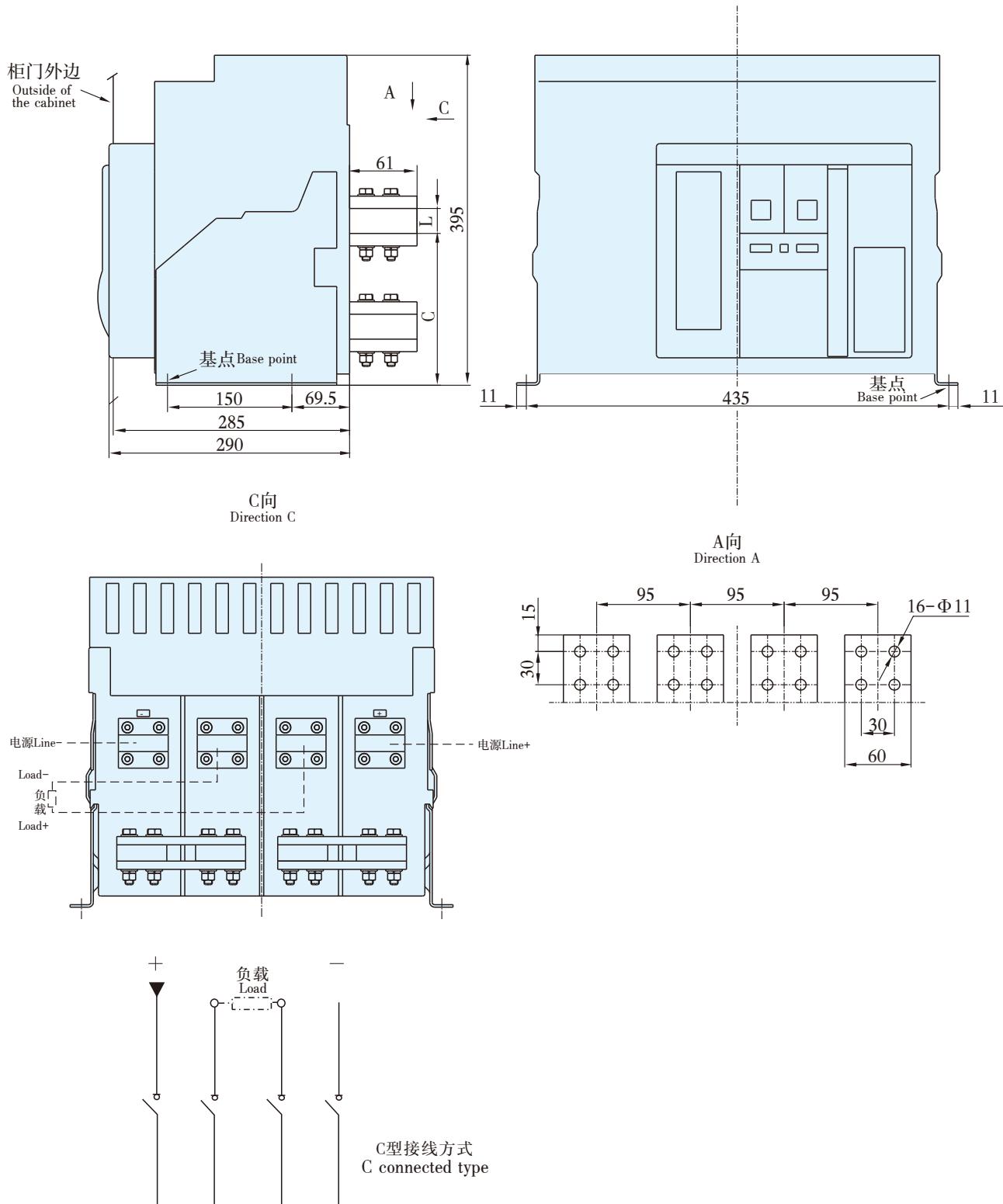


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关 (直流C型接线方式, 固定式)
 CW3G-2500/4DC switch-disconnector(C connected type
 for DC,fixed)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	187
630A~1600A	15	189.5



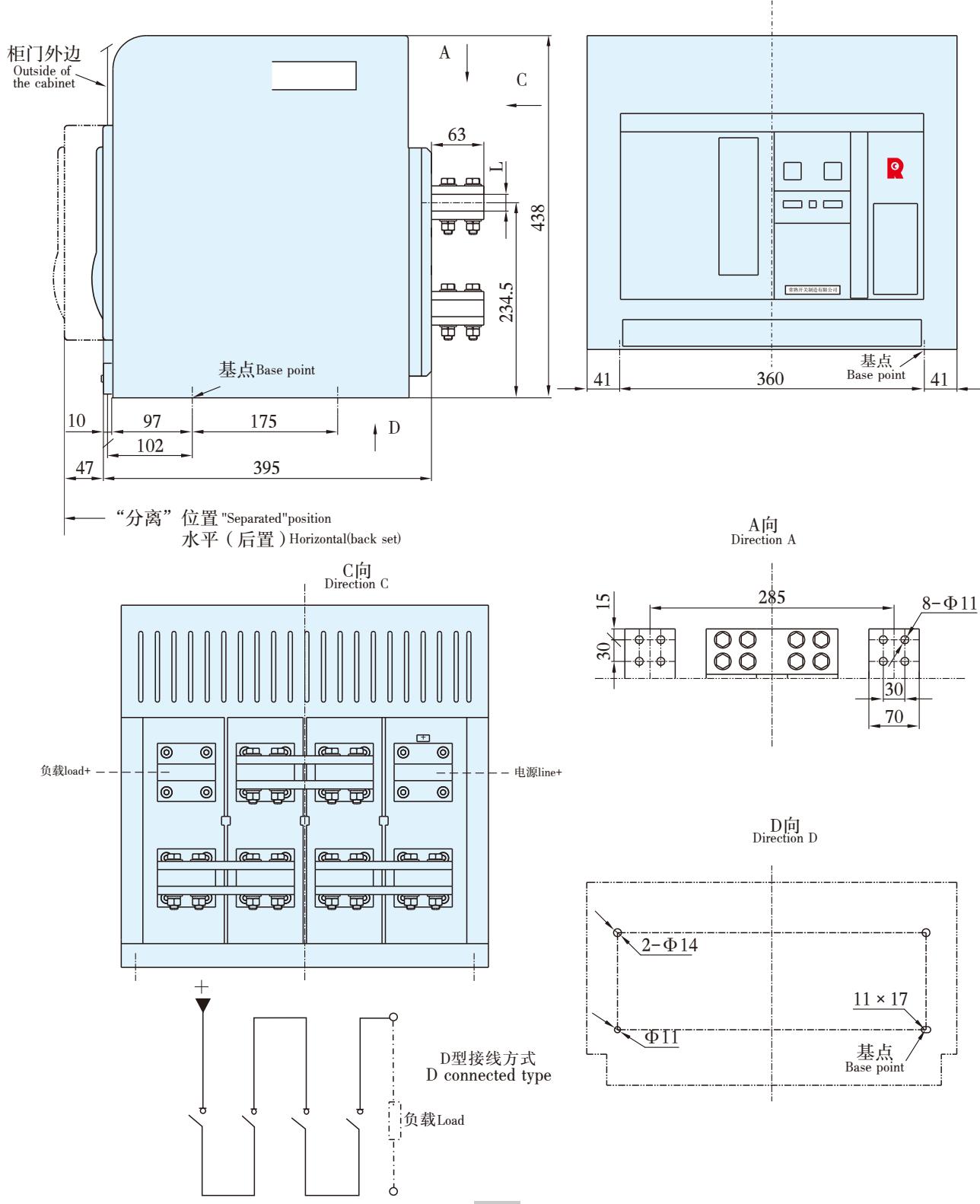


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关 (直流D型接线方式, 抽屉式水平后置)
 CW3G-2500/4DC switch-disconnector(D connected type for DC,
 draw-out and horizontal back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



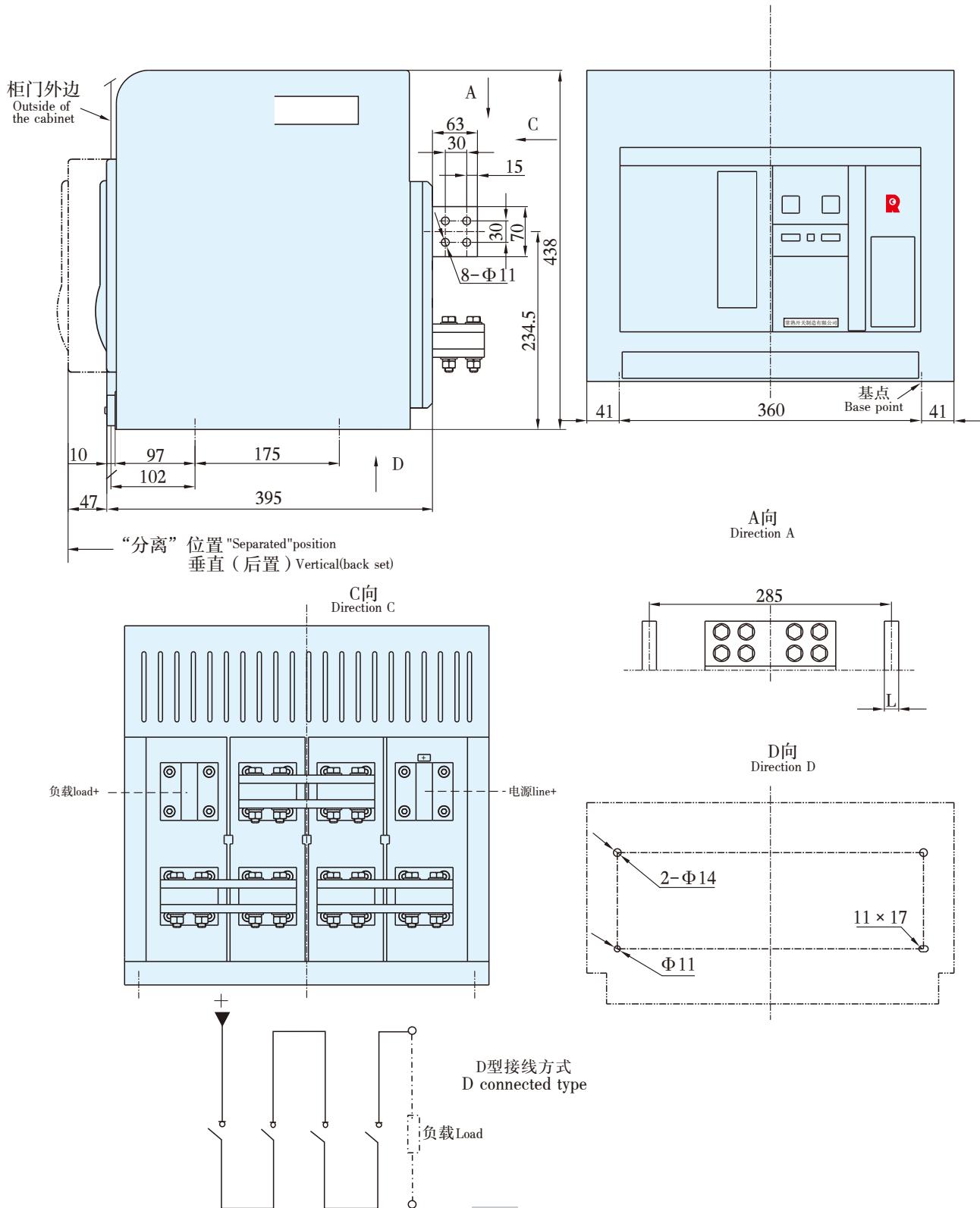


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关 (直流D型接线方式, 抽屉式垂直后置)
 CW3G-2500/4DC switch-disconnector(D connected type for DC,
 draw-out and vertical back set)

电流规格 Current specifications	L (mm)
2000A、2500A	20
630A~1600A	15



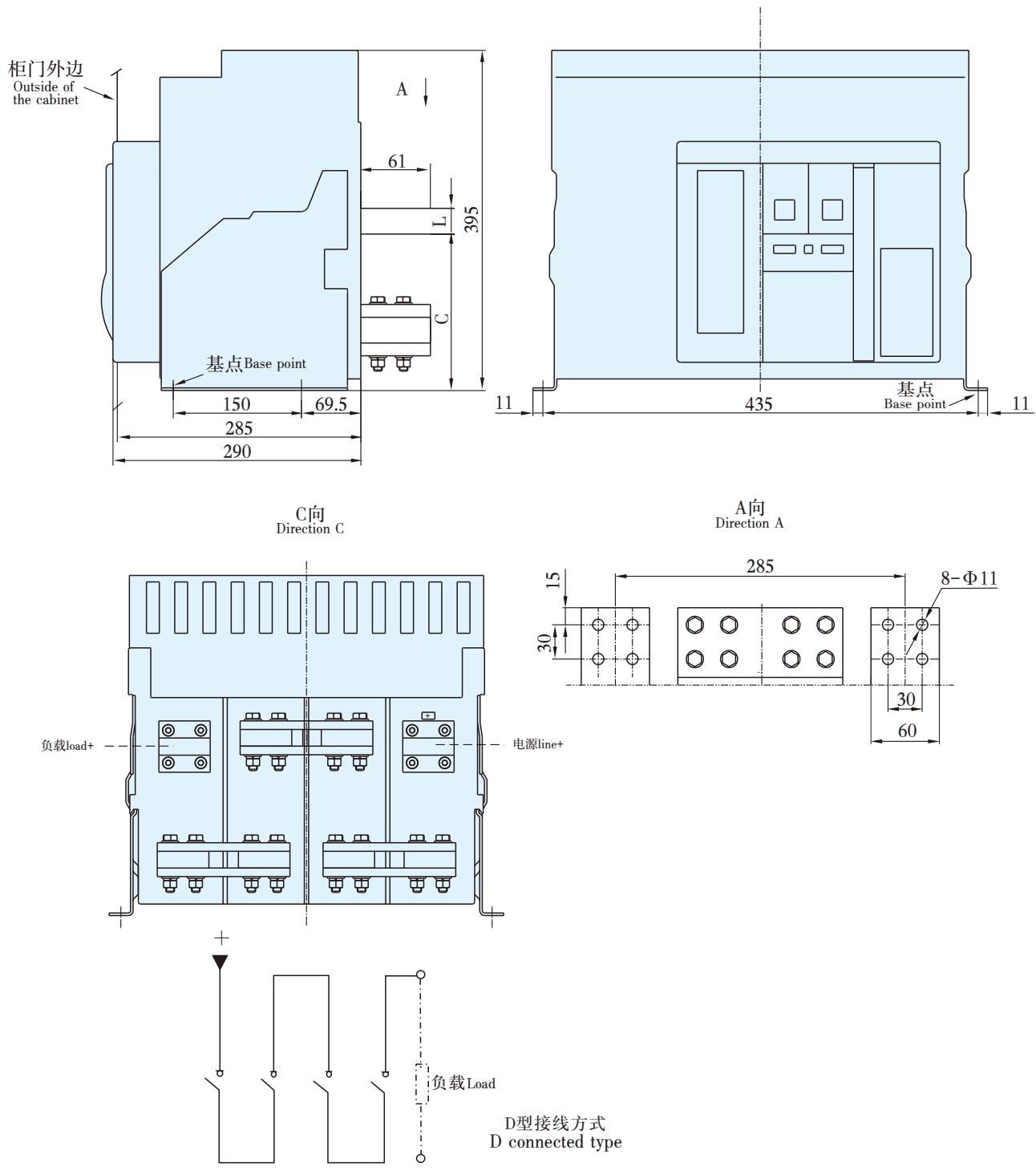


CW3G直流隔离开关外形安装尺寸和接线方式

OUTLINE AND MOUNTING DIMENSIONS AND CONNECTED FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/4DC隔离开关（直流D型接线方式，固定式）
 CW3G-2500/4DC switch-disconnector(D connected type)
 for DC,fixed)

电流规格 Current specifications	L (mm)	C (mm)
2000A、2500A	20	187
630A~1600A	15	189.5





CW3G直流隔离开关门框开孔尺寸

CUTOUT DIMENSIONS OF THE DOORFRAME FOR CW3G DC SWITCH-DISCONNECTOR

CW3G-2500/DC隔离开关（抽屉式）

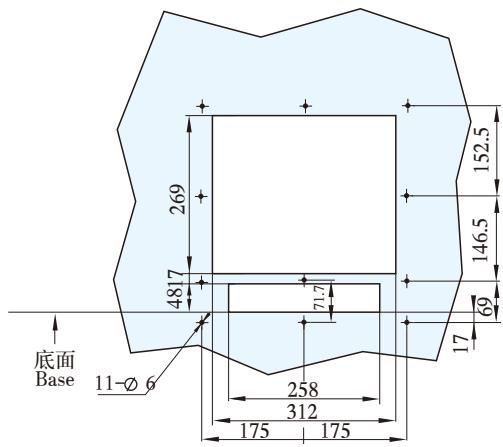
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为256mm

CW3G-2500/DCswitch-disconnector(draw-out type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 256mm



CW3G-2500/DC隔离开关（固定式）

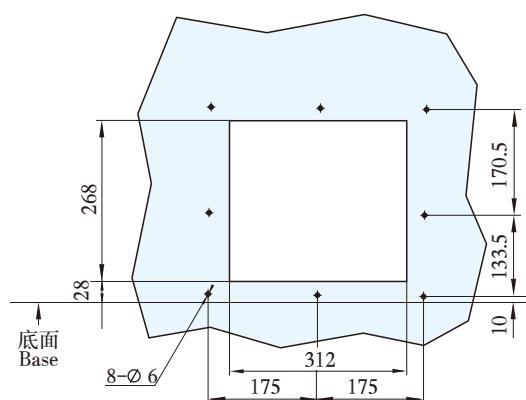
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为256mm

CW3G-2500/DCswitch-disconnector(fixed type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 256mm



CW3G-2500/4DC隔离开关（抽屉式）

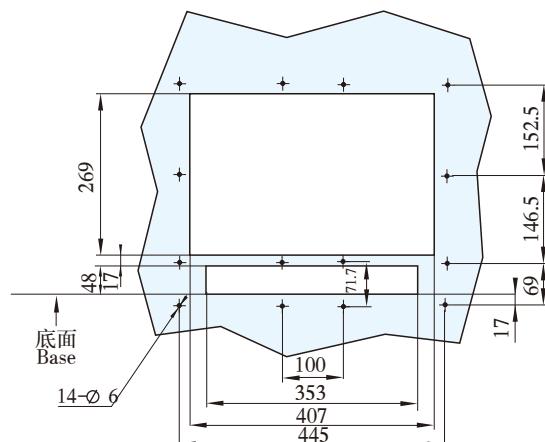
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为303.5mm

CW3G-2500/4DCswitch-disconnector(draw-out type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 303.5mm



CW3G-2500/4DC隔离开关（固定式）

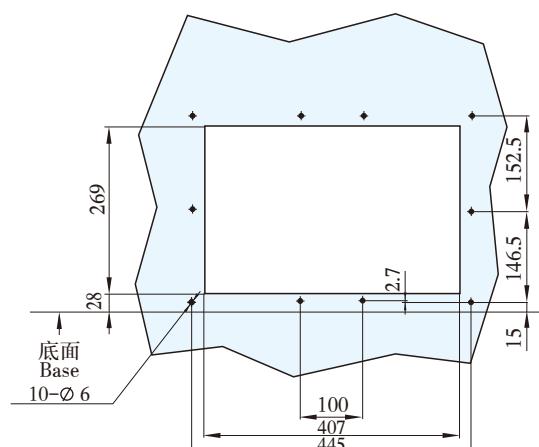
安装门框前盖开孔图

面板中心离柜门右铰链最小距离为303.5mm

CW3G-2500/4DCswitch-disconnector(fixed type)

The drawing of cutout dimensions for mounting cover of doorframe

Distance from the panel center of switch-disconnector to the right hinge of cabinet door should be at least 303.5mm





CW3G交流隔离开关订货规范
ORDERING FORM FOR CW3G AC SWITCH-DISCONNECTOR

(请在 _____ 上填上数字, 内打上√)
 (please filled figures in _____, or sign√ in)

用户单位 Name			订货台数 Order amount		订货日期 Order date	
型号 Type	CW3G- _____ / _____					
额定工作电流 Rated operational current	Ie = _____ A	额定电压 Rated voltage	<input type="checkbox"/> AC400V <input type="checkbox"/> AC690V			
安装方式 Mounting	<input type="checkbox"/> 固定式 Fixed <input type="checkbox"/> 抽屉式 Draw-out					
联接方式 Connection	<input type="checkbox"/> 水平 Horizontal <input type="checkbox"/> 垂直 Vertical					
附件 Accessories 配件 置 <small>Choice of accessories</small>	分励脱扣器 <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V Shunt release					
	合闸电磁铁 <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V Closing electromagnet					
	电动操作机构 <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V Power-driven operation mechanism					
	辅助开关 Auxiliary switch <input type="checkbox"/> 4组转换触头 Four pairs of change over contacts		<input type="checkbox"/> 4常开4常闭 four pieces of normally-open contacts(NC) and four pieces of normally-closed contacts			特殊形式 Exceptional pattern <input type="checkbox"/> 6组转换触头 six pairs of change over contacts
<input type="checkbox"/> 按钮锁 Pushbutton lock mechanism <input type="checkbox"/> 相间隔板 Interphase barriers <input type="checkbox"/> 计数器 Counter						



CW3G直流隔离开关订货规范
ORDERING FORM FOR CW3G DC SWITCH-DISCONNECTOR

(请在 _____ 上填上数字, 内打上√)
(please filled figures in _____, or sign √ in)

用户单位 Name			订货台数 Order amount		订货日期 Order date
型号 Type	CW3G- _____ / _____ DC				
额定工作电流 Rated operational current	Ie = _____ A	额定电压 Rated voltage <input type="checkbox"/> DC750V <input type="checkbox"/> DC1000V			
安装方式 Mounting	<input type="checkbox"/> 固定式 Fixed <input type="checkbox"/> 抽屉式 Draw-out				
电源/负载联接方式 Power/load connected type	<input type="checkbox"/> A型 A type	<input type="checkbox"/> B型 B type	<input type="checkbox"/> C型 C type	<input type="checkbox"/> D型 D type	
附件配置 Accessories	分励脱扣器 Shunt release <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V				
	合闸电磁铁 Closing electromagnet <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V				
	电动操作机构 Power-driven operation mechanism <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V <input type="checkbox"/> DC220V <input type="checkbox"/> DC110V				
	辅助开关 Auxiliary switch	<input type="checkbox"/> 4组转换触头 Four pairs of change over contacts	<input type="checkbox"/> 4常开4常闭 four pieces of normally-open contacts(NC) and four pieces of normally-closed contacts	特殊形式 Exceptional pattern	<input type="checkbox"/> 6组转换触头 six pairs of change over contacts
选择附件 Choice of accessories	<input type="checkbox"/> 按钮锁 Pushbutton lock mechanism <input type="checkbox"/> 相间隔板 Interphase barriers <input type="checkbox"/> 计数器 Counter				

全国一级经销商明细表

北京

北京欣凯通机电有限公司 010-66162644
北京市北方森源电气有限责任公司 010-87581702
众业达电气(北京)有限公司 010-67315343

天津

天津市强强电器科技有限公司 022-83715527
天津众业达电气有限公司 022-86326008

上海

上海企开电器设备有限公司 021-56319844
上海森昊电气有限公司 021-54791857
上海泰耀机电设备有限公司 021-57428230
上海华启电气设备有限公司 021-56319844
上海斐格电气有限公司 021-24205696
上海众业达电器有限公司 021-56988198

重庆

重庆众业达电器有限公司 023-63056952

福建

泉州市恒源电力设备有限公司 0595-22587087
厦门亿合电器有限公司 0592-5223466
众业达电气(厦门)有限公司 0592-5976058
福州众业达电器有限公司 0591-83802051

浙江

杭州华森电器有限公司 0571-86947817
杭州天源机电设备有限公司 0571-87244850
杭州众业达电器有限公司 0571-88260931
乐清市新格电气有限公司 0577-62727313
宁波市江东腾辉电器有限公司 0574-87890910
宁波众业达电器有限公司 0574-87052331
宁波安能电气有限公司 0574-87239079
金华三变电气有限公司 13605798321
众业达电气温州有限公司 0577-88919098

安徽

合肥皖为电气设备工程有限责任公司 0551-62884402
合肥环亚机电贸易有限责任公司 0551-62871030
众业达电气安徽有限公司 0551-65670231

江苏

南京扬力电器有限公司 025-84585297
南京兰珀电气工程有限公司 025-85283021
众业达电气南京有限公司 025-58833275
常州市中环电器有限公司 0519-8867161
镇江兆丰电器有限公司 0511-88320888
苏州苏新机电设备有限公司 0512-67571866
苏州市中信机电设备有限公司 0512-65236366
苏州华夏华通电气有限公司 0512-67702333
常熟普利通电气有限公司 0512-52781789
常熟市中通电力设备有限责任公司 0512-52853511
常熟市润源电气设备销售有限公司 0512-52110269
常熟市创达电气物资有限责任公司 0512-52728292
无锡智帆达商贸有限公司 0510-82736734
无锡众业达电器有限公司 0510-85431468
南通正源电气有限公司 18751322091
扬州易尔法电气有限公司 0514-87895515
连云港市希门自动化电器设备有限公司 0518-85013959
徐州泛得电子有限公司 0516-83861527
海安巨龙工贸有限公司 0513-88839628
淮安康泰电气设备有限公司 0517-89897555
宿迁市常开电气有限公司 0527-88803336

山东

莱芜汇鑫实业有限公司 13563400899
山东亘源电力工程有限公司 0531-86018833
淄博新能源机电设备有限公司 0533-2186118
济南久业电气设备有限公司 0531-85869178
烟台信谊电气技术有限公司 0535-6105866
江苏华晟电器设备有限公司 山东电气技术中心 0531-88950385
济南众业达电器有限公司 0531-81216270
青岛众业达电器有限公司 0532-55557512

江西

江西佳创实业有限公司 0791-88317951
九江安力达电气有限公司 0792-7031115
南昌众业达电气有限公司 0791-88205101

广东

广州市友朋电气设备有限公司 020-34527080
广州市众业达电器有限公司 020-81279615
佛山市君鹏机电设备有限公司 0757-83811990
佛山市嘉合贸易有限公司 0757-83397660
东莞市运通泰电气科技有限公司 0769-22028877
深圳市华冠电器销售有限公司 0755-83928099
众业达电气(深圳)有限公司 0755-25874404
众业达电气股份有限公司(含子公司) 0754-88739376
汕头市新兴工业配套材料有限公司 0754-88681888
汕头市众业达机电设备有限公司 0754-88739149

湖南

长沙市康发电器有限公司 0731-84422858
长沙众业达电器有限公司 0731-85453248

湖北

武汉万千新能源电气有限公司 027-87312243
武汉圣天科技有限公司 027-82706552
武汉众业达机电设备有限责任公司 027-87929423
众业达电气襄阳有限公司 0710-3721652

广西

南宁市德控机电设备有限责任公司 0771-3212829
广西众业达电气有限公司 0771-3809503

河北

河北华尔电气有限公司 0311-87227761
石家庄市众业达电气自动化有限公司 0311-89624271
石家庄市晓赛电气设备贸易有限公司 13803115659
唐山众业达电气设备有限公司 0315-5772709

河南

河南中电电器有限公司 0371-66965984
河南百望电气设备有限公司 0371-63329025
郑州众业达电器有限公司 0371-68772833
众业达电气洛阳有限公司 0379-60697679

四川

成都慧永电器成套设备有限公司 028-68003527
成都众业达电器有限责任公司 028-87560470

陕西

陕西新力源电气有限公司 029-88348188
陕西众业达电器有限公司 029-87452381
西安西菱电器机械设备有限公司 029-88320213

云南

昆明惠尔电气有限公司 0871-63835808
昆明众业达自动化设备有限公司 0871-68065589

宁夏

银川同正电气有限公司 0951-6014483

山西

山西三为电控设备成套有限公司 0351-6521630
山西常顺电器销售服务有限公司 0351-7023860
山西众业达电器有限公司 0351-6386456

新疆

众业达新疆电气有限公司 0991-4523128

辽宁

沈阳市新业物资实业公司 024-22734762
众业达电气(沈阳)有限公司 024-88505149
鞍山市耐特机电系统工程有限公司 0412-5230221
众业达电气(大连)有限公司 0411-86713487

吉林

长春市金蟾经贸有限公司 0431-84788961

黑龙江

哈尔滨北低日月机电设备有限公司 0451-88387734
众业达电气哈尔滨有限公司 0451-83336586

内蒙古

包头市杰德自动化工程有限公司 0472-6180955
内蒙古宇欣机电科技有限公司 0471-6512281

海南

海南华胜电气设备有限公司 0898-66226803

甘肃

甘肃众业达电器有限公司 0931-8406069