Stock Code: 831081

PRODUCT CATALOG

Soft Starter

Variable Frequency Drive

Power Quality Devices

Power Controller

Switchgear & Controlgear

Xi'an XiChi Electric Co., Ltd.

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CONTENTS

COMPANY PROFILE

Xi'an Xichi Electric Co., Ltd. (stock code 831081), established in 2002, is a high-tech enterprise specializing in the research and development, manufacture of power electronic products and the provision of industrial automation system solutions.

Headquarter

Main products:

CMC low-voltage soft starter, CMV high-voltage soft starter, XFC low-voltage variable frequency drive, CFV high-voltage variable frequency drive, high/low voltage power quality device (APF/SVG), CPC low-voltage power regulator, CPV high-voltage power regulator, high-voltage soft grid-connected device, and sets of high and low voltage switchgear and controlgear.

Products have been widely used in electric power, water conservancy, metallurgy, building materials, petrochemical, coal, municipal, transportation, thermal power, machinery, universities, scientific research, medical, construction and other industries.

We focus on technological innovation and continue to invest in R&D to build a competitive core team. We continue to accelerate the pace of industry-university-research cooperation, in-depth cooperation with Xi'an Jiaotong University, Xi'an University of Technology and the Institute of Power Electronics, and jointly established the New Energy Engineering Technology Transformation Center and the Xi'an Intelligent Motor Control Engineering Technology Center. We have established a strategic partnership with Vertiv Technology (formerly Emerson).We have established a technology platform with power devices such as thyristor SCR and IGBT as the main body. We use innovation funds to establish high and low voltage motor starting and variable frequency speed regulation test stations, high and low temperature aging rooms, and low voltage electrical product testing systems. We have complete testing instruments to ensure product reliability.

In the past two decades, we have always adhered to the parallel development of technical marketing and industry marketing, and provided users with valuable products and solutions. The company has passed **ISO9001 management system** certification, **ISO14000 environmental management system** certification, **OHSAS18000**

occupational health management system certification, and obtained China **CCC** and EU **CE** certification. The company has obtained more than **100 patents** for invention, appearance and utility model. The products have passed the inspection of Power Electronic Products Testing Center, Suzhou Electric Appliance Research Institute and Xi'an High Voltage Electric Appliance Research Institute.

In order to provide customers with faster service, we have established **32 offices and service agencies**, set up special business departments for overseas customers, and built a multi-faceted security system.

Under the guidance of the business philosophy of "innovation is unlimited, integrity is eternal", XiChi Electric will make great achievements with its partners in the spirit of "inclusiveness, hard work and progress".

Our mission: Provide automation products and services in harmony with nature, Improve the quality of human life.

Our vision: Make our company a leading professional provider of power electronic products and solutions.

Production Base

CERTIFICATES

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CQC has issued an IQNet recognized certificate that the organization:

XI'AN XICHI ELECTRIC CO., LTD.

Registered and Operation Address: 15th Floor, Building B, Xi'an National Digital Publishing Base, No.996, Tiangu 7th Road, Zhangba Street Office, High-tech Zone, Xi'an, Shaanxi, P.R.China
Production Address: No.2 West, Qinling 4th Road, Cottage Technology Industries Base, High-tech Zone, Xi'an, Shaanxi, P.R.China

has implemented and maintains a

Quality Management System

for the following scope:

Design, Production of CMC, CMV Series Soft Starter, Thyristor Power Controllers and 220V-10KV Inverters, Active Filter Devices, Automatic Chemical Control Equipment

which fulfils the requirements of the following standard:

GB/T 19001-2016 / ISO 9001:2015

Issued on: April 27, 2021
Expires on: May 13, 2024
Registration Number: CN00121Q33665R5M/6100

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Alex Stoichitoiu
President of IQNet

Lu Mei
President of CQC

IQNet Partners*:
AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany EAGLE Certification Group USA
FCAV Brasil FONDONORMA Venezuela ICONTEC Colombia Inspecta Certificazioni Oy Finland INTECO Costa Rica
IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CQC has issued an IQNet recognized certificate that the organization:

XI'AN XICHI ELECTRIC CO., LTD.

Registered and Operation Address: 15th Floor, Building B, Xi'an National Digital Publishing Base, No.996, Tiangu 7th Road, Zhangba Street Office, High-tech Zone, Xi'an, Shaanxi, P.R.China
Production Address: No.2 West, Qinling 4th Road, Cottage Technology Industries Base, High-tech Zone, Xi'an, Shaanxi, P.R.China

has implemented and maintains an

Environmental Management System

for the following scope:

Design, Production of CMC, CMV Series Soft Starter, Thyristor Power Controllers and 220V-10KV Inverters, Active Filter Devices, Automatic Chemical Control Equipment and Related Management Activities

which fulfils the requirements of the following standard:

GB/T 24001-2016 / ISO 14001:2015

Issued on: April 27, 2021
Expires on: April 26, 2024
Registration Number: CN00121E31591R1M/6100

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Alex Stoichitoiu
President of IQNet

Lu Mei
President of CQC

IQNet Partners*:
AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany EAGLE Certification Group USA
FCAV Brasil FONDONORMA Venezuela ICONTEC Colombia Inspecta Certificazioni Oy Finland INTECO Costa Rica
IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CQC has issued an IQNet recognized certificate that the organization:

XI'AN XICHI ELECTRIC CO., LTD.

Registered and Operation Address: 15th Floor, Building B, Xi'an National Digital Publishing Base, No.996, Tiangu 7th Road, Zhangba Street Office, High-tech Zone, Xi'an, Shaanxi, P.R.China
Production Address: No.2 West, Qinling 4th Road, Cottage Technology Industries Base, High-tech Zone, Xi'an, Shaanxi, P.R.China

has implemented and maintains an

Occupational Health and Safety Management System

for the following scope:

Design, Production of CMC, CMV Series Soft Starter, Thyristor Power Controllers and 220V-10KV Inverters, Active Filter Devices, Automatic Chemical Control Equipment and Related Management Activities

which fulfils the requirements of the following standard:

GB/T 45001-2020 / ISO45001:2018

Issued on: April 27, 2021
Expires on: April 26, 2024
Registration Number: CN00121S31221R1M/6100

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Alex Stoichitoiu
President of IQNet

Lu Mei
President of CQC

IQNet Partners*:
AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany EAGLE Certification Group USA
FCAV Brasil FONDONORMA Venezuela ICONTEC Colombia Inspecta Certificazioni Oy Finland INTECO Costa Rica
IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

ISO9001:2015

Quality Management System Certified

ISO14000:2015

Environmental Management System Certified

ISO45001:2018

Occupational Health and Safety Management System Certified

- CE & RoHS
- 23 Invention Patents
- 38 Utility Model Patents
- 29 Design Patents
- 38 Software Copyrights

CTE
Coffee-T Electronics Technology Co., Limited.

Attestation of Conformity
RoHS

Certification number: CTE19AC-3138 Report number: CTE19AR-3138

The device, as described herewith, was tested and/or verified on the basis of samples and/or RoHS test reports provided by the Applicant, and to be certified that the hazardous substance are in compliance with the Directive

2011/65/EU Restriction of Hazardous Substance

The test results are traceable to the international or national standards.

Applicant: XI'AN XICHI ELECTRIC CO., LTD.
Address: NO.2 West Qinling Four Road, Cottage Technology Industries Base, Xi'an Hi-Tech Zone, Shaanxi, China
Manufacturer: XI'AN XICHI ELECTRIC CO., LTD.
Address: NO.2 West Qinling Four Road, Cottage Technology Industries Base, Xi'an Hi-Tech Zone, Shaanxi, China
Product: Frequency Converter
Model: See the Certificate Annex

The results in this report are applicable only to the devices tested and/or test reports verified. This report shall not be re-produced except in full without the written approval of the undersigned. This report is valid only companied with the RoHS report verified and identified by the undersigned.

Attestation by:

Issue by: Li
Date of Issue: January 28, 2019
6th Floor,Bldg A1,Digital Tech Park, 7th GaoXin South 4Rod, Tech Park,NanShan,ShenZhen,China
Tel:+86-755-86025859 Fax:+86-755-86025819
http://www.xjhk.com.cn

CTE
Coffee-T Electronics Technology Co., Limited.

CE Certificate of Conformity

Certification number: CTE19AC-3138 Report number: CTE19AR-3138

COFFEE-T ELECTRONICS TECHNOLOGY CO.,LTD hereby declares that testing has been completed and reports have been generated for:

Applicant: XI'AN XICHI ELECTRIC CO., LTD.
NO.2 West Qinling Four Road, Cottage Technology Industries Base, Xi'an Hi-Tech Zone, Shaanxi, China
Manufacturer: XI'AN XICHI ELECTRIC CO., LTD.
NO.2 West Qinling Four Road, Cottage Technology Industries Base, Xi'an Hi-Tech Zone, Shaanxi, China
Product: Frequency Converter
Model: See the Certificate Annex
Note: All models share same circuit diagram, just with different output.
As test performance on XPC500-2P4-150XG-BEN-28

And, in accordance with the following applicable directives:

2014/30/EU Electromagnetic Compatibility (as amended)

That this product has been assessed against the following applicable standards:

EMC EN 61800-3: 2004+A1:2012

Therefore, COFFEE-T ELECTRONICS TECHNOLOGY CO.,LTD hereby acknowledges that the applicant may issue a DECLARATION of CONFORMITY and apply the CE marking in accordance with European Union Rules.

Attestation by:

Issue by: Li
Date of Issued: January 28,2019
6th Floor,Bldg A1,Digital Tech Park, 7th GaoXin South 4Rod, Tech Park,NanShan,ShenZhen,China
Tel:+86-755-86025859 Fax:+86-755-86025819
http://www.xjhk.com.cn

SGS

CERTIFICATE No.: 010474-IST-19
5001201/ACN/MFP

EC-ATTESTATION CERTIFICATE OF LVD&EMC

Date, Place of Issue: 10th of February, 2019 / Istanbul
Applicant: XI'AN SPREAD ELECTRIC COMPANY LIMITED
No. 2 West Qinling Mountains Road, Xi'an, hightechnology, technology industry base, Xi'an China
Manufacturer: XI'AN SPREAD ELECTRIC COMPANY LIMITED
No. 2 West Qinling Mountains Road, Xi'an, hightechnology, technology industry base
Description of Product (Model(s)): Motor Soft Starter
• CMC-0063, CMC-0112, CMC-0163, CMC-0203 #
• CMC-0253, CMC-0313, CMC-0363, CMC-0413 #
• CMC-0493, CMC-1103, CMC-1303, CMC-1603 #
• CMC-2203, CMC-2603, CMC-2803, CMC-3163, CMC-4003 #
Reference Standard(s): • EN 60947-4-1:2014/A1:2017, EN 60947-4-1:2014/A1:2017/A2:2019 and EN 61000-6-2:2007 #
• EN 61000-6-3:2007/A1:2011, EN 61000-3-2:2014, EN 61000-3-3:2013 #
TCF Reference No.: TCF-LVD&EMC-190217-SHI (DUCE 181211)
Date of Assessment Performed: 08th January, 2019
Conclusion: The sample in compliance with the requirements of Annex III, Clause 1.2 of Annex IV of the Low Voltage Directive 2006/95/EC and Annex IV of the Electromagnetic Compatibility Directive 2004/108/EC.
= Applicable to CMC-0163, CMC-0253 and CMC-0313 only, represented as "CMC-0163/0253/0313-SHI (DUCE 181211) satisfies the requirements of Low Voltage Directive 2006/95/EC and Electromagnetic Compatibility Directive 2004/108/EC.

This certificate is valid until as long as the relevant directives and harmonised standards written above are current.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.

This certificate refers only to the sample submitted to SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş. for testing and certification. The certificate shall not be reproduced except in full without the written approval of SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş.

This certificate is issued by the Company subject to its General Conditions of Service available upon request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification, jurisdictional issues established therein.

SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş.
Bağlar Mah. Dörtyolcuoğlu Cad. No:36
Çerkezköy 59500 / TURKEY
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SGSPAPER 15070898

CIVC
AV TECHNOLOGY

EUROPEAN COMMUNITY – CERTIFICATE OF ADEQUACY
CERTIFICATE NUMBER GB/1067/6152/17 Issue 1 page 1 of 1

Manufacturer: XI'AN SPREAD ELECTRIC COMPANY LIMITED
NO.2 WEST QINLING MOUNTAINS ROAD FOUR CAOTANG TECHNOLOGY BASE, HIGH-TECH ZONE, XI'AN, CHINA
Certificate Holder: XI'AN SPREAD ELECTRIC COMPANY LIMITED
NO.2 WEST QINLING MOUNTAINS ROAD FOUR CAOTANG TECHNOLOGY BASE, HIGH-TECH ZONE, XI'AN, CHINA
Technical Reference/Date: GUCC170509/16th March 2016
Machine Type: MOTOR SOFT-STARTER
Trade Names: XICHISHANG
Models: CMC-0063-LX; CMC-0093-LX; CMC-0113-LX; CMC-0153-LX; CMC-0173-LX; CMC-0213-LX; CMC-0243-LX; CMC-0313-LX; CMC-0363-LX; CMC-0423-LX; CMC-0503-LX; CMC-0613-LX; CMC-0753-LX; CMC-0853-LX; CMC-0923-LX; CMC-1033-LX; CMC-1153-LX; CMC-1323-LX; CMC-1503-LX; CMC-1603-LX; CMC-1803-LX; CMC-2003-LX; CMC-2203-LX; CMC-2503-LX; CMC-2803-LX; CMC-3203-LX; CMC-3603-LX; CMC-4003-LX; CMC-4503-LX; CMC-5003-LX; CMC-5603-LX
Applicable EC Directives: EMC Directive 2014/30/EU Annex II
LVD 2014/35/EU
Applicable Standards: EN 60947-1:2007/A1:2011; EN 60947-4-1:2014/A1:2012; EN 61000-6-1:2007; EN 61000-6-2:2005/A1:2011/AC:2011; EN 61000-6-3:2004; EN 61000-6-4:2011.

AV Technology Ltd confirms that a technical file exists for the above mentioned product which satisfactorily addresses all of the essential requirements of the above mentioned standards. The manufacturer is responsible for certifying the product and ensuring that production is in compliance with the requirements detailed in the technical file. Certificates can be checked for validity at www.avtc.co.uk

Certificate Issued: 1st April 2017 Expiry Date: 31st December 2022
Signature: W Paul Stevens
Laboratory Head

AV Technology Ltd is a Notified Body for the Machinery Directive, Outdoor Noise Directive and International Craft Directives only. Any other Directives referred to are strictly not covered by AV Technology's Notified Body status.

Unit 2 Easter Court, Europa Boulevard, Warrington, Cheshire, WA5 7ZB
Tel: +44 161 488 3737 Fax: +44 161 488 3747 Web: www.avtechnology.com

ISET S.r.l. Unipersonale

CERTIFICATE
Certificat - Certificado - Certyfikat - Zertifikat - 证书

1) APPLICANT (who finally puts the product on the market):
Xi'an SPREAD Electric Co.,Ltd
15th Floor, Building B, Xi'an National Digital Publishing Base,
No. 996 of Tiangu Road, Zhangba Street Office, Xi'an High-tech Zone, Shanxi
MANUFACTURER: Xi'an SPREAD Electric Co.,Ltd.
No.2 West 4th Qinling Road, Caotang Technology Base, High-tech Zone, Xi an, Shanxi Province, P.R.China
2) CERTIFIC ATE NO.: ISET/ 20142020-224
TECHNICAL REFERENCE: CT/2019/7286
3) DET MARK:
4) CAUTION &RUE CE MARKING (Instruction for the Applicant who puts the product on the EU market)
The label of the CE Marking on the left side should be not less than 5mm height. CE Marking and EC Declaration of Conformity are duties for the manufacturer or its applicant who puts the product on the market. This one is impossible to start the CE marking and certification procedure as required by the legislation in force. Only for the products which are compulsorily included into specific Directives or Regulations will be necessary to appoint a Notified Body.
5) TYPE OF PRODUCT: CMV High Voltage Solid Soft Starter
MODELS: CMV-4080-10, CMV-428-10, CMV-650-10, CMV-1250-10, CMV-1980-10, CMV-2250-10, CMV-2500-10, CMV-2800-10, CMV-3350-10, CMV-4080-10, CMV-4500-10, CMV-5900-10, CMV-6800-10, CMV-7800-10
6) LIST OF DIRECTIVES / REGULATIONS /STANDARDS (as declared by the manufacturer itself)
Low Voltage Directive 2014/35/EU
EN 60947-1:2007/A1:2011+A2:2014, EN 60947-4-1:2018/A1:2012
7) NOTE: This document is not referred to any evaluation that could be considered as included in the scope of the activities covered by the standard BS EN ISO/IEC 17065:2012 or European Regulation 765/2008.
8) REMARK: Certificate is issued on voluntary application from the Client and it gives to the applicant the right to use and affix the ISET Mark on their products, even if it doesn't imply any assessment on the safety and compliance of the product. ISET declines that the only scope of this assessment is to verify the existence of the declaration issued by the manufacturer or an applicant under its own responsibilities.
9) DATE OF ISSUE: 30/12/2020 EXPIRY DATE: 05/12/2023
10) SIGNATURE: ISET S.R.L.

CMC-LX Low Voltage Soft Starter

Overview

CMC-LX series motor soft starter is a new type of motor starting and protection device that combines power electronics technology, microprocessor and automatic control. It can start/stop the motor smoothly without steps, avoiding mechanical and electrical shocks caused by traditional starting methods such as direct starting, star-delta starting, and auto-buckling starting. And can effectively reduce the starting current and distribution capacity to avoid capacity expansion investment. At the same time, the CMC-LX series soft starter integrates a current transformer inside, and users do not need to connect it externally.

Adapted power: 7.5-630KW

Service conditions

Control power	AC110V--220V±15%, 50/60Hz
Three-phase power	Standard wiring AC380V, 660V, 1140V±15% Internal delta wiring AC380V±15%
Nominal current	18A--1000A, 22 rated values in total
Applicable motor	Ordinary squirrel cage AC asynchronous motor
Start ramp mode	Voltage ramp start and current ramp start
Stop mode	Free stop and soft stop
Logical input	Impedance 1.8 KΩ, power supply +24V
Start frequency	Frequent or infrequent start available, start is advised not to exceed 10 times each other
Protective function	Phase failure, overcurrent, short circuit, SCR protection, overheat, phase current unbalance, wiring and inner fault
IP	IP00, IP20
Cooling type	Natural cooling or forced air cooling
Installation type	Wall mounted
Environmental condition	When sea altitude is above 2,000m, soft starter should be derated for use. Ambient temperature: -25-+45°C Relative humidity: less than 95%(20°C±5°C) Free of flammable, explosive and corrosive gas or conductive dust. Good ventilation for indoor installation and vibration is less than 0.5G

CMC-HX Low Voltage Soft Starter

Overview

CMC-HX soft starter is a new type of intelligent asynchronous motor starting and protection device. It is a motor terminal control device that integrates starting, display, protection and data acquisition. With the fewer components, users can achieve more complex control functions. The Chinese and English interface display makes the operation much easier. As CMC-HX soft starter is inbuilt with a current transformer, the external one is not needed.

Rated voltage: 380V Adapted power: 7.5-630KW

Rated voltage: 690V Adapted power: 1 5-700KW

Rated voltage: 1140V Adapted power: 2 2-995KW

Service conditions

Control power	AC110V--AC220V±15% 50/60Hz
Three-phase power	AC380V±15% Standard wiring AC380V, 660V, 1140V±15% Internal delta connection AC380V±15%
Nominal current	18A--1000A, 22 rated values in total
Applicable motor	Ordinary squirrel cage asynchronous motor
Starting mode	Voltage exponential curve, voltage linear curve, current exponential curve, current linear curve
Stop mode	Free stop, soft stop, brake, and pump stop
Logical input	Impedance 1.8 KΩ, power supply +24V
Start frequency	Frequent or infrequent start available, start is advised not to exceed 10 times each other
Protective function	Overcurrent, overload, underload, overheat, phase failure, three-phase current imbalance, phase sequence detection, overheat of motor and frequency error, etc.
Protection level	IP00, IP20
Cooling type	Natural cooling or forced air cooling
Installation type	Wall mounted
Environmental condition	When sea altitude is above 2,000m, soft starter should be derated for use. Ambient temperature: -25-+45°C Relative humidity: less than 95%(20°C±5°C) Free of flammable, explosive and corrosive gas or conductive dust. Good ventilation for indoor installation and vibration is less than 0.5G

CMC-MX Low Voltage Built-in Bypass Soft Starter

Overview

CMC-MX motor soft starter is a sort of new type motor starting protector combining electronic technology microprocessor and automation. It is able to stably start and stop motor without step change, which perfectly avoids mechanical and electrical impact as a result of using direct start, wye-delta start and auto-induction voltage-reduced start to start motor and can effectively reduce starting current and distribution capacity. At the same time, as CMC-MX soft starter has current transformer and contactor built inside, user does not need to externally connect the both to soft starter.

Adapted power: 7.5-280KW

Service conditions

Control power	AC110V-220V±15%, 50/60Hz
Main power	AC380V±15%
Rated current	18A—500A, 17 rated values in total
Applicable motor	Ordinary squirrel cage AC asynchronous motor
Start ramp mode	Voltage ramp start and current ramp start
Stop mode	Free stop and soft stop
Logical input	Impedance 1.8 KQ, power supply +24V
Start frequency	Frequent or infrequent start available, start is advised not to exceed 10 times each other
Protective function	Phase failure, overcurrent, short circuit, SCR protection, overheat, phase current unbalance, wiring and inner fault
IP	IP00, IP20
Cooling type	Natural cooling or forced air cooling
Installation type	Wall-mounted
Environmental condition	When sea altitude is above 2,000m, soft starter should be derated for use. Ambient temperature: -25-+45°C Relative humidity: less than 95%(20°C±5°C) Free of flammable, explosive and corrosive gas or conductive dust. Good ventilation for indoor installation and vibration is less than 0.5G

High Voltage Solid Soft Starter

CMV-G Stationary Type

Features

- The thyristor valve body is used as the main circuit component. Advanced technology, reliable work, modular structure, maintenance-free.
- Strong adaptability, able to work normally under the condition of isolated grid or generator set at home and abroad.
- Central control is performed based on 32-bit ARM core microcontroller. Fast response, high control precision and strong anti-interference ability.
- The cabinet adopts KYN28 structure, with beautiful appearance. The material is made of aluminum-zinc plate, which is assembled by multiple bending. All control operations are performed with the cabinet door closed.
- Separation of high and low voltage, the cabinet is composed of three parts: low voltage chamber, high voltage chamber and valve group chamber, with five anti-locking functions.
- The cabinet is the same as the standard switchgear, and can be easily combined with other high-voltage switchgear on site, making the whole system style uniform and beautiful.
- Protection class: IP40.
- ★ The valve group is fixedly installed in the cabinet and cannot be extracted.

CMV-S Handcart Type

Features

- Having all the electrical properties of CMV-G.
- The valve group is installed in the withdrawable KYN28 central high-pressure cabinet, and the thyristor valve body adopts the trolley installation method, which is convenient for users to check, test and maintain.
- The cabinet is the same as the standard switch, which can be easily combined with other high-voltage switch cabinets on site, so that the style of the whole system is unified and beautiful.
- Protection class: IP40.

CMV-E Integrated Type

Features

- The three-in-one integrated design of switch cabinet, soft start cabinet and bypass cabinet is small in size and easy to install.
- Standard configuration includes grid-side vacuum circuit breaker and bypass vacuum contactor, no need to configure operation cabinet or switch cabinet, reducing design cost.
- Small size, the volume is 50%-60% of other soft start under the same power, easy to install and save space. Suitable for installation anywhere, no distance requirement from other equipment layout.
- The cabinet is made of aluminum-zinc cladding, completely metal armored, assembled structure, and has a wide range of combination schemes. High precision, corrosion resistance, light weight, high strength, and strong universality of parts.
- It can be equipped with domestic ZN63A-12 (VSI) series or imported VD4 series vacuum circuit breaker, with wide applicability, high reliability, and long-term maintenance-free.
- Various types of handcarts are changed according to the modular building blocks to ensure that cars of the same specification can be freely interchanged, and cars of different specifications must not enter.
- High reliability interlocking device, fully meet the requirements of "five preventions".
- The circuit breaker room and the cable room can be equipped with heaters to prevent condensation and corrosion;
- Each high-pressure chamber has a pressure relief channel to ensure personal safety.
- The front door is equipped with an observation window, which can observe the working status of indoor components;
- Protection level: IP40.

*NOTE：The circuit breaker can be pulled out, but the valve body cannot be pulled out.

Soft Start Cabinet

Overview

CMC series soft-start control device is a control device for electric motors that uses CMC type intelligent motor soft starter as the main control device and is equipped with main circuit incoming circuit breaker and bypass contactor.

Parameter

Rated voltage: AC380V±15%
Rated frequency: 50HZ
Cooling method: natural cooling
Device power supply: three-phase four-wire system
Ambient temperature: -20℃ ~ +42℃
Altitude: When the altitude exceeds 2000 meters, the capacity should be reduced accordingly.
Environment: no flammable, explosive, corrosive gas, no conductive dust, no severe vibration and shock at the installation site
Protection class: IP30

Technical characteristic

- **Starting current on the grid side:** the starting current is adjustable within the range of 1 to 5 times the rated current. The starting current is small and constant, the starting torque is large, there is no impact on the power grid, and the investment in the design capacity of the primary equipment is reduced.
- **Smooth start:** reduce the impact of large motors on mechanical equipment when starting, which can extend the life of mechanical equipment and motors by about 30%.
- **Grid voltage drop:** less than 10% of rated voltage.
- **Communication method:** RS485, Modbus communication protocol.
- **Starting time:** 1～120S adjustable.
- **Control mode:** voltage exponential curve, voltage linear curve, current exponential curve, current linear curve, and programmable kick starting torque and starting current limit can be applied in each mode. According to different loads, the corresponding starting curve can be selected to achieve the starting effect. A variety of stopping methods, programmable soft parking, free stopping, braking, pump stop. The unique basic algorithm makes the motor start and stop more accurate and smooth.
- **Movable panel:** The panel can be moved to equipment operating surface through machine interface for remote control, which is convenient for on-site use.
- **Self-adaption of power frequency:** power frequency 50/60Hz self-adaptive function, which is convenient for users to use.
- **Dynamic fault memory:** Up to 10 faults can be recorded. It is easy to find the cause of the failure.
- **Perfect protection function:** It detects current and load parameters in the whole process, and has microcomputer protection functions such as overcurrent, overload, underload, overheating, phase failure, short circuit, three-phase current imbalance, phase sequence detection, and frequency error.

Low Voltage VFD

Feature

XFC500 series inverter is an open-loop vector control inverter.

- This model has a wide range of applications.
- Support wall-mounted, embedded, side-by-side, top-bottom and other installation methods.
- 132KG/160KP and above models have built-in DC reactor.
- Flexible application function expansion, mainly including IO expansion card, PLC expansion card.
- Rich communication expansion, CANopen, Profibus, EtherCAT and other communication expansion cards can be connected through the expansion interface.
- External LED operation keyboard can be introduced.
- All series support common DC busbar and DC power supply.

Function

1. **Frequency setting resolution**
   Digital setting: 0.01HZ; Analog setting: max frequency x 0.025%
2. **Control Mode**
   Open Loop Vector Control (SVC); V/F Control
3. **Pull-in torque**: 0.3HZ/150% (SVC)
4. **Speed range**: 1:200 (SVC)
5. **Speed stabilizing accuracy**: ±0.5% (SVC)
6. **Torque boost**
   Automatic torque boost; Manual torque increase 0.1%~30.0%
7. **V/F Curve**
   Linear type; Multi-point type;
   N-th power V/F curve (1.2 power, 1.4 power, 1.6 power, 1.8 power, 2 power)
8. **Acceleration and deceleration curve**
   Linear or S-curve acceleration and deceleration;
   Four kinds of acceleration and deceleration time, the range of acceleration and deceleration time is 0.0~6500.0S
9. **DC braking**
   Frequency of DC braking: 0.00HZ ~ max frequency;
   Braking time: 0.0S~36.0s;
   Braking action current value: 0.0%~100.0%
10. **Jogging control**
    Jogging frequency range：0.00HZ~50.00HZ;
    Jog acceleration and deceleration time：0.0s~6500.0s
11. **Simple PLC, multi-stage speed operation**
    Up to 16-stage speed operation via built-in PLC or control terminal
12. **Built-in PID**
    Closed-loop control realized in process control applications
13. **Overvoltage and overcurrent stall control**
    Automatically limit current and voltage during operation to prevent fault shutdown due to frequent over-current and over-voltage
14. **Fast current limiting function**
    Minimize shutdown due to overcurrent to ensure normal operation of the frequency converter

Low Voltage VFD

Feature

XFC550 is a high-performance vector control series inverter, its features:

- With open-loop vector control, closed-loop vector control and VF control performance.
- The application of the modified model can adapt to the general load.
- 11K0 and above models have built-in DC reactor.
- Support wall-mounted, embedded, side by side, up and down and other installation methods.
- Flexible application expansion functions, mainly including IO expansion cards, encoder expansion cards, and PLC expansion cards.
- Rich communication expansion, can connect CANopen, Profibus, EtherCAT and other communication expansion cards through the expansion interface.
- The LED operation panel can be externally introduced.
- All series support common DC bus and DC power supply.

Function

1. **Frequency setting resolution**
   Digital setting: 0.01Hz; Analog setting: max frequency x 0.025%
2. **Control Mode**
   Open Loop Vector Control (SVC); Closed Loop Vector Control (FOC); V/F Control
3. **Pull-in torque**: 0.3Hz/150% (SVC); 0Hz/180% (FOC)
4. **Speed range**: 1:200 (SVC); 1:1000 (FOC)
5. **Speed stabilizing accuracy**: ±0.5% (SVC); ±0.02% (FOC)
6. **Torque boost:** Automatic torque boost; Manual torque boost 0.1%~30.0%
7. **V/F Curve:** Straight Line type; Multi-point type;
   N-th power V/F curve (1.2 power, 1.4 power, 1.6 power, 1.8 power, 2 power)
8. **Acceleration and deceleration curve**
   Straight Line or S-curve acceleration-deceleration method;
   Four kinds of acceleration-deceleration time, the range of acceleration-deceleration time is 0.0~6500.0s.
9. **DC braking**
   Frequency of DC braking: 0.00Hz~ max frequency;
   Braking time: 0.0s~36.0s;
   Braking action current value: 0.0%~100.0%.
10. **Jogging control**
    Jogging frequency range：0.00Hz~50.00Hz;
    Jogging acceleration-deceleration time：0.0s~6500.0s
11. **Simple PLC, multi-stage speed operation**
    Up to 16-stage speed operation via built-in PLC or control terminal.
12. **Built-in PID**
    Closed-loop control realized in process control applications.
13. **Overvoltage and overcurrent stall control**
    Automatically limit current and voltage during operation to prevent shutdown due to frequent over-current and over-voltage.
14. **Fast current limiting function**
    Minimize shutdown due to overcurrent to ensure normal operation of the frequency converter.

High Voltage VFD

Overview

CFV9000A series high-voltage inverter takes high-speed DSP as the control core, adopts space voltage vector control technology and power unit series multi-level technology. With high reliability, easy operation and high performance as the design goals, it can meet the needs of users for various types of load speed regulation, energy saving, and production process improvement. It is a high-voltage source inverter.

Features

	
All-in-one series high-voltage VFD	**Basic series high-voltage VFD**
6KV：200KW~560KW 10KV：200KW~1000KW	6KV：200KW~5000KW (two-quadrant) 10KV：200KW~9000KW (two-quadrant) 6KV：200KW~2500KW (four-quadrant) 10KV：200KW~3250KW (four-quadrant)
forced air cooling	forced air cooling
Based on the two-quadrant synchronous (including permanent magnet synchronous motor)/asynchronous motor platform design, the whole machine integrates control cabinet, power cabinet, transformer cabinet and switching cabinet, which is easy to install.	Based on the two/four-quadrant synchronous (including permanent magnet synchronous motor)/asynchronous motor platform design and unit sealing design, the whole machine is modularly designed, and the production efficiency is high.
Small size, save space; overall transportation, easy installation	Modular design of the control system, small harmonics, precise speed regulation, good sealing performance of the power unit, and strong environmental adaptability.
Load type: Fans, pumps	Load type: Fans, water pumps; Elevator, belt conveyor.

Active Power Harmonic Filter

Overview

The active power filter is connected to the power grid in parallel, and the voltage and current of the compensation object are detected in real time. After calculation by the command current operation unit, the IGBT module is driven by the broadband pulse modulation signal conversion technology.

Input the current with the opposite phase and the same magnitude as the harmonic current of the power grid, and the two harmonic currents just cancel each other, so as to achieve the functions of filtering harmonics, dynamically compensating reactive power, and obtaining the desired power supply current.

Features

Compensation function	It can realize any combination of harmonic control, reactive power compensation, and three-phase unbalanced current adjustment, and can set the priority of each function according to the load environment and demand to realize the compensation of typical power quality problems.
Wide filtering range and fast response	2 -50 harmonics can be compensated at the same time, or a specific harmonic can be selected for compensation, and the total current distortion rate after compensation is less than 5%. Using full digital control, the harmonic current detection algorithm is based on the TTA algorithm of time domain transformation, which quickly separates the instantaneous value of each harmonic current, greatly improves the compensation response time, and truly achieves a full response of 10ms.
Core components	IGBT module imported from Germany, three-level topology. American TIDSP control chip and A LTERA's CYCLONE III series FPGA chip constitute a powerful three-core control system. American TI's double-ended high-speed input 12-bit A/D data conversion chip makes signal sampling more reliable.
Layered heat dissipation structure design	The structure design of layered heat dissipation makes the air duct independent, the heat dissipation performance is better, and the interference of dust and other pollutants on the control system is effectively isolated.
Fan independent disassembly design	The fan can be disassembled independently, and the replacement is easy and convenient, which enhances the reliability of heat dissipation.
Modular Design	A variety of capacity modules can be installed in any combination to improve the reliability and maintainability of the whole machine.
Humanized interface design	Using a high-resolution 5-inch LCD touch screen, it can monitor various operating data of the product in real time, and change the control parameters online. The operation is simple, and it can be remotely controlled through the mobile APP. The display interface design is novel and beautiful.

Static Var Generator

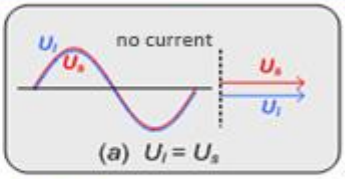
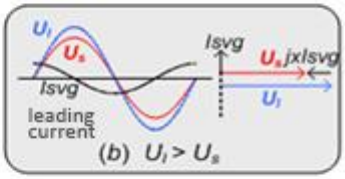
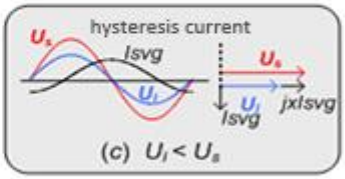
Hazards of reactive power

- Reduce generator active power output.
- Reduce the power supply capacity of power transmission and substation equipment.
- Causes increased line voltage loss and increased power loss.
- Cause low power factor operation and voltage drop, so that the capacity of electrical equipment cannot be fully utilized.

Overview

The static var generator connects the self-commutation bridge circuit in parallel to the power grid directly through the reactor, and appropriately adjusts the phase and amplitude of the output voltage on the AC side of the bridge circuit or directly controls the current on the AC side, so that the circuit emits signals that meet the requirements. The reactive current can achieve the purpose of dynamic reactive power compensation.

Working Modes

Operating mode	Waveforms and Vector Plot	Description
No-load operation mode		Ui=Us, Isvg=0, SVG does not output reactive power
Capacitive operation mode		Ui>Us, Isvg is the leading current, its amplitude can be continuously controlled by adjusting Ui, so as to continuously adjust the capacitive reactive power emitted by SVG
Inductive operation mode		Ui<Us, Isvg is the hysteresis current, at this time the inductive reactive power emitted by SVG can be controlled continuously

Harmonic Protector

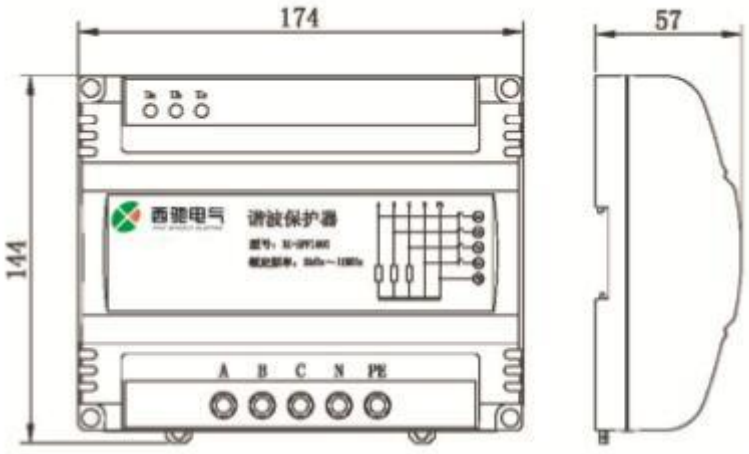
Overview

XC-HPF harmonic protector can effectively eliminate high-frequency pulse peak in the power grid, the interference of high-frequency (frequency above 2KHZ) harmonics to electrical equipment, remove high-frequency noise, and purify the power network. This harmonic protector can absorb several kilowatt surge signals with high power.

Features

- **Wide application frequency band**
  It can absorb various high-order harmonics and high-order noises from 2kHZ to 10MHZ.
- **Small size, easy to install**
  Support wall-mounted and rail installation, simple wiring.
- **High reliability**
  It has the characteristics of high efficiency, fast response and no noise, and can control the harmonics at the source very effectively.
- **Wide application**
  Suitable for various precision inductive loads.
- **Economic Benefits**
  The power consumption of the device itself is low, the failure rate of electrical equipment is reduced in an all-round way, and it has high economic benefits.

Product Size



Low Voltage Hybird Filter Compensation Device

Overview

The low-voltage hybrid filter device is a product that combines active products (APF or SVG) with capacitors/reactors to achieve continuous compensation without dead angle. It adopts fully modular design, flexible combination, and actively meets the linear dynamic requirements of the system to meet the sub-compensation.

Application areas include equipment manufacturing, petrochemical industry, metallurgy, textile industry, building materials industry, light industry and other industrial power distribution places, as well as hospitals, theaters/cinemas, commercial complexes and other civil construction industry power distribution places.

Parameter

Item	Parameter
Input voltage	380V, -30% ~ +20%
Input frequency	50HZ, ±10%
Wiring method	3P4L+PE
Rated capacity	Whole machine: 100-400KVAR, one or more active modules can be used
Response time	≤10ms
Power loss	Active Module <3%, Capacitance/Reactance <1%
Control mode	Reactive power compensation, constant reactive power, constant power factor
Compensation function	Harmonics, reactive power, three-phase unbalance (priority selectable)
Control precision	≥2.5%
Ct sampling requirements	5A
Protective function	Overcurrent, overheating, overvoltage, etc.
Protection class	Module IP30, whole machine IP30, the whole machine can be customized with higher protection level
Ambient temperature	-20℃ -50℃ (Derating above 40℃)
Environment humidity	≤95% (45℃) no cond
Altitude	<2000m, Above 2000m, use derating according to GB/T3859.2
Dimensions (W*H*D:mm)	800*2200*1000, the size of the whole machine can be customized
Installation method	Whole machine: floor-mounted installation
Display content	Voltage, load current, compensation current, grid-side current, module temperature, voltage distortion rate, current distortion rate, etc.
Communication interface and communication method	RS485/CAN

Integrated Smart Capacitor

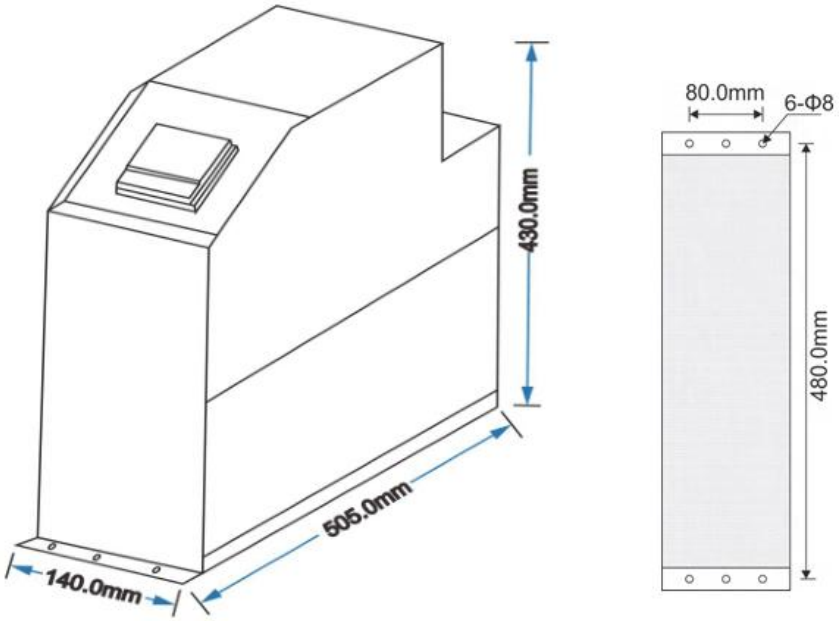
Overview

XCCZ series smart capacitors take self-healing low-voltage power capacitors as the main body, DSP processor as the control center, and electromechanical switches for effective control, thereby realizing rapid zero-crossing switching technology.

The product integrates the independent research and development achievements of sensing technology, network technology and electrical technology into intelligence, miniaturization and modularization product. Compared with traditional low-voltage reactive power compensation products, it has automatic cyclic switching, three-phase compensation, phase-splitting compensation, hybrid compensation, grading optimization compensation, hybrid grading optimization compensation. And it also has protection function of overcurrent, overvoltage, undervoltage, undercurrent,voltage loss and phase loss, harmonics, temperature. And at the time it has measurement, control , communication and other functions.

Products are widely used in power systems with low-voltage inductive loads. Such as urban power grids, rural power grids, civil buildings, factories and mines, petrochemicals, electrified railways and rail transit, low-voltage power distribution network reactive power compensation, improve power factor, reduce line loss, stabilize power grid voltage to ensure power supply quality, energy saving and consumption reduction. The synergistic effect is obvious.

Dimension



Phase Current Unbalance Treatment Device

Overview

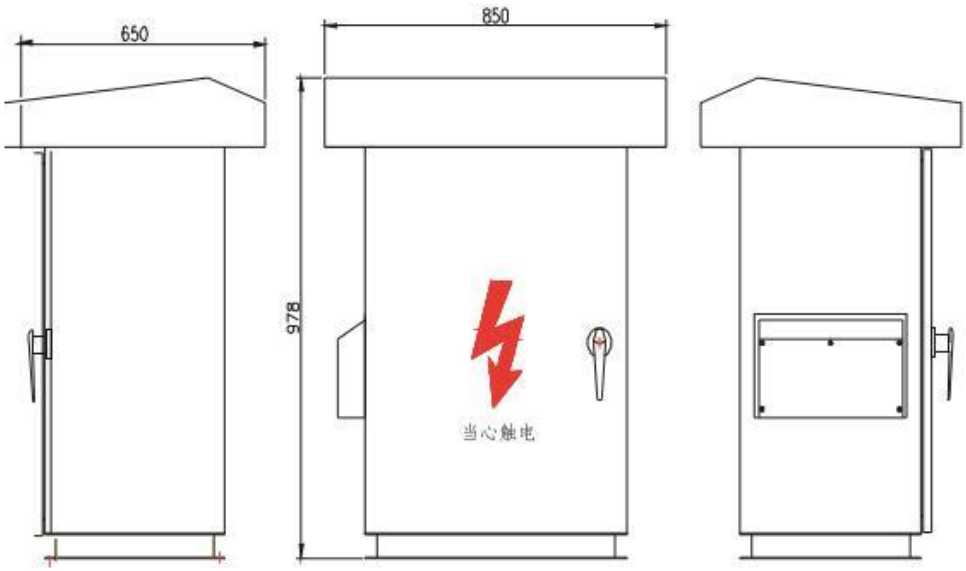
The three-phase current unbalance treatment device can effectively treat the key problems such as three-phase unbalance, low terminal voltage, two-way compensation reactive current and harmonic pollution existing in the transformation and upgrading of the distribution network.

Raising the terminal voltage, improving the quality of power distribution and solving the problem of three-phase unbalance, greatly reduce the loss of the low-voltage distribution network lines and transformers, and prolong the life of the transformer, make the reactive power achieve local balance, improve the power factor and increase the output capacity of the distribution network and solve the harmonic pollution caused by nonlinear load.

Features

- The three-phase unbalanced current in the distribution network is compensated, and the current unbalance is reduced to less than 3%.
- Reduce the neutral current in the distribution network.
- Compensate the capacitive or inductive reactive power of the system and increase the power factor to 0.99.
- Control the harmonic current in the system.
- The short-range wireless monitoring handheld terminal using WIFI technology is convenient for ground monitoring settings.
- Optional remote GPRS background monitoring system, mobile phone/PC remote monitoring equipment.
- It has the self-adaptive function of the power grid phase sequence, and the phase line connection can be in any order.

Dimension



Low Voltage Power Controller

Overview

CPCH series power controller is an advanced type of regulator equipment designed by microprocessor technology, power electronic technology and modern control technology. It has beautiful and compact structure, perfect protection measures, and integrates various control methods.

Through precise control of voltage, current and power, precise regulation of the load is achieved. With its advanced digital control algorithm, it optimizes the power usage efficiency and plays an important role in saving power. Perfect and reliable protection function, more effectively protect the safety of the load and related equipment.

It is flexible to use and is widely used in heating, lighting adjustment and other occasions.

Features

- Advanced microprocessor technology
  It adopts high-performance Cortex TM-M3 32-bit core CPU to perform central control, with fast speed, high precision and strong anti-interference ability.
- OLED LCD display, user friendly
- Strong anti-interference property
- Power frequency self-adaptation
- Various load wiring methods
  The load can be connected to zero at the midpoint of the star, can not be connected to zero at the midpoint of the star, or delta connection, which can be easily set by parameters.
- Various control methods
- Built-in terminal, communication, and three start-stop methods
- Advanced Communication Functions
- RS485 communication interface
- Embedded Modbus standard protocol
- Analog signal control
  Users can input 4~20mA (1~5V) or 0~20mA (0~5V) standard signal (requires the cooperation of the DIP switch), and has positive logic and negative logic. At the same time, it has 4~20mA or 0~20mA standard analog signal output function.
- High-precision measurement of input and output voltage and current
  Adopt 24-bit dedicated ADC to ensure sampling accuracy. The voltage and current detection are all true RMS, which ensures the accurate measurement of non-sine wave signals, and can display the accumulated power.
- Perfect protection function
  The whole process detects current and load parameters, and has power supply undervoltage, power supply overvoltage, power supply protection delay, overcurrent protection, overcurrent protection delay, thyristor overheat protection, frequency protection and other protection functions.

High Voltage Power Control Cabinet

CPV series high voltage power control cabinet is a standard load power control device used to control and protect high voltage AC loads.

Features

- Full digital control, high stability.
- Integrate the functions of phase shift, power adjustment and LZ control.
- Have multi-channel switch and analog input and output interfaces.
- The input and output interfaces all use isolation technology, with strong anti-interference ability.
- Using high-voltage power thyristor, component structure, modular design, easy to install and maintain.
- It has multiple overvoltage absorption and protection technologies.
- Using the well-known foreign digital trigger and optical fiber isolation technology with high anti-interference, the high and low voltage of the device can be reliably isolated.
- RS-485 communication interface, standard MODBUS protocol, can communicate with host computer or centralized control center.
- All circuit boards have undergone strict aging experiments and undergo three-proof treatment: the main board and all controlled CPUs are all imported products.
- Voltage sampling adopts electromagnetic voltage transformer, which has good sampling linearity, strong anti-interference and no zero drift.

Service condition

Main circuit voltage	3000-1000KVAC 50/60±2Hz
Control voltage	150～240AC 50/60Hz
Output voltage	0-98% of main circuit voltage (phase shift control)
Operating Mode	Phase Shift, Zero Crossing, LZ Control
Control method	U, I, U^2, I^2, P
Control signal	Analog,digital, communication
Load nature	Resistive load, Inductive load
Protection	Overcurrent protection, Overheat protection, Phase loss protection, Load unbalance protection, Overvoltage and undervoltage protection and Zero sequence protection, etc.
Input and output	Multiple analog input and output, multiple switching input and output
Display interface	LCD display, touch screen display (optional)
Communication	RS485 communication interface, Modbus RTU communication protocol
Cooling mode	Forced air cooling
Protection class	IP40

AC Low Voltage Power Distribution Cabinet

Features

GGD type AC low-voltage power distribution cabinet has the characteristics of high segmentation ability, good dynamic and thermal stability, flexible electrical scheme, convenient combination, series type, strong practicability, novel structure and high protection level. It can be used as a replacement product for low-voltage switchgear.

This product is suitable for power distribution systems with AC 50Hz, rated working voltage 380V, and rated working current up to 3150A for power users such as power plants, substations, factories and mines, as power, lighting, electric energy conversion, distribution and control of power distribution equipment.

Parameter

Model	Rated Voltage(V)	Rated current(A)		Rated short circuit Breaking current (KA)	Withstand current (KA/IS)	Rated peak Withstand current (KA)
GGD1	380	A	1000	15	15	30
		B	630			
		C	400			
GGD2	380	A	1600	30	30	63
		B	1250			
		C	1000			
Protection class	IP30					
Busbar	Three-phase four-wire system (A, B, C, PEN) Three-phase five-wire system (A, B, C, PE, N)					

Installation environment

- The ambient air temperature should not be higher than +40℃ and not lower than -5℃. The average temperature within 24 hours shall not be higher than +35℃;
- Indoor installation and use, the altitude of the use site shall not exceed 2000m;
- The relative humidity of the surrounding air does not exceed 50% when the maximum temperature is +40℃, and a relatively large relative humidity is allowed at a lower temperature. (For example: 90% at +20°C) The effect of occasional condensation due to temperature changes should be considered;
- When the equipment is installed, the inclination from the vertical plane should not exceed 5%. The equipment should be installed in a place without severe vibration, and in a place where the electrical components are not corroded;
- Users can negotiate with the manufacturer if they have special requirements.

Low Voltage Withdrawable Switchgear

Overview

GCS type low-voltage withdrawable switchgear is suitable for conversion, distribution and control of power for power plants, substations, petrochemical departments, factories and mines,high-rise buildings, distribution box motor control center and capacitance compensation.

This new type of low-voltage withdrawable switchgear designed on the principle of economy, rationality and reliability. The product has the characteristics of high breaking and making ability, good dynamic and thermal stability, flexible electrical scheme, convenient combination, strong practicability, novel structure and high protection level.

Parameter

Main circuit rated voltage (V)		AC380 400 600
Auxiliary circuit rated voltage (V)		AC220 380 400
Rated frequency (Hz)		50（60）
Rated insulation voltage (V)		600 1000
Rated current (A)	**Horizontal busbar**	≦4000
	Vertical busbar	1000
Busbar rated short-time withstand current (KA/1s)		50-80
Busbar rated peak withstand current (KA/0.1s)		105 176
Power frequency test voltage (V/min)	**The main circuit**	2500
	Auxiliary circuit	1760
Busbar	**Three-phase four-wire system**	A、B、C、PEN
	Three-phase five-wire system	A、B、C、PE、N
Protection class		Ip30 Ip40

Installation environment

- The ambient air temperature should not be higher than +40℃ and not lower than -5℃. The average temperature within 24 hours shall not be higher than +35℃;
- Indoor installation and use, the altitude of the use site shall not exceed 2000m;
- The relative humidity of the surrounding air does not exceed 50% when the maximum temperature is +40℃, and a relatively large relative humidity is allowed at a lower temperature. (For example: 90% at +20°C) The effect of occasional condensation due to temperature changes should be considered;
- When the equipment is installed, the inclination from the vertical plane should not exceed 5%. The equipment should be installed in a place without severe vibration, and in a place where the electrical components are not corroded;
- Users can negotiate with the manufacturer if they have special requirements.

Indoor Metal Armored Withdrawable Switchgear

Overview

KYN28-12 indoor metal armored withdrawable switchgear is a complete set of power distribution device for indoor 3.6-12kv three-phase current 50Hz single busbar and single busbar segment system.

It is mainly used for power transmission of power plants and small and medium-sized generators, power distribution of industrial and mining enterprises, power reception and power transmission of secondary substations of power systems, large-scale high-voltage motors, etc. **It is used for control, protection and detection.**

It's made up of aluminum-zinc plate, fully enclosed structure. The upper part is the busbar chamber, the middle part is the handcart chamber, and the lower part is the cable chamber. Instruments and relays are installed in the instrument room in front of the upper part of the cabinet. It has the functions of overhead incoming and outgoing lines and left and right connections.

Parameter

Name		Unit	Technical parameter
Rated voltage		KV	3；6；10
Maximum working voltage		KV	3.6；7.2；12
Rated insulation level	**Imin power frequency withstand voltage**	KV	42
	Lightning impulse withstand voltage	KV	75
Rated frequency		Hz	50
Rated current of main busbar		A	630；1250；1600；2000；2500；3150
Rated current of branch busbar		A	630；1250；1600；2000；2500；3150
4S thermal stable current		KA	16；20；25；31.5；40；50
Rated peak withstand current		KA	40；50；60；80；100；125
Protection class: The enclosure is IP4X, and the isolation room and circuit breaker room door is IP2X when opened			

Installation environment

- Ambient air temperature: upper limit +40°C, lower limit -15°C
- Altitude: The maximum altitude of the equipment installation site is 2000m (2000m selects the high altitude type)
- Environmental humidity: daily average relative humidity ≤ 95%, monthly average relative humidity ≤ 90%
- Earthquake: Intensity not exceeding magnitude 8
- The surrounding air should not be significantly polluted by corrosive or flammable gases, water vapor, etc.
- No serious contamination and frequent violent vibrations. Severe conditions designed to meet Category 1 requirements

*Special working conditions: When used under normal environmental conditions specified in GB3906, it shall be negotiated by the user and the manufacturer.

Low Voltage Reactive Power Compensation Cabinet

Overview

In industrial and agricultural production, there are a large number of reactive equipment. These reactive devices will reduce the voltage of the power system, increase the power loss, and then affect the power quality. Therefore, the corresponding reactive power compensation device came into being, and the GGJ low-voltage reactive power compensation cabinet was specially produced for the low-voltage reactive power compensation cabinet.

Parameter

Rated voltage	400V
Rated insulation voltage	660V
Rated frequency	50HZ or 60HZ
Compensation method	three-phase compensation and single-phase compensation are combined.
Compensation capacity	5~500Kvar
Switching method	cyclic switching, coding switching, fuzzy control automatic switching
The fastest response time	≤20ms
Cabinet size	1000*1000*2200 (mm)
Protection class	IP20

Low Voltage Combined Withdrawable Switchgear

Overview

MNS low-voltage combined withdrawable switchgear (hereinafter referred to as the device) is a product manufactured according to the technology transferred from ABB in Switzerland.

MNS type low-voltage combined withdrawable power distribution cabinet is suitable for systems with AC 50~60HZ and rated working voltage of 660V and below, for control of power generation, transmission, distribution, power conversion and power consumption.

In addition to being suitable for general places, the device can also be used in offshore oil drilling platforms and nuclear power plants after special treatment.

Parameter

Main circuit rated voltage (V)		AC 380 400 660
Auxiliary circuit rated voltage (V)		AC 220 380 400
Rated frequency (Hz)		50(60)
Rated insulation voltage (V)		660 1000
Rated current (A)	**Horizontal busbar**	630- 5000
	Vertical Busbar (MCC)	1000 2000
Busbar rated short-time withstand current (kA/1s)	**Horizontal busbar**	50~100
	Vertical Busbar (MCC)	60
Busbar rated peak withstand current(kA/0.1s)	**Horizontal busbar**	105~250
	Vertical Busbar (MCC)	130~150
Power frequency test voltage(V/1min)	**The main circuit**	2500
	Auxiliary circuit	2000
Busbar	**Three-phase four-wire system**	A、B、C、PEN
	Three-phase five-wire system	A、B、C、PE、N
Protection class		Ip30 Ip40

High Voltage Soft Grid-connected Device

Overview

CGC series high-voltage soft grid-connected device is soft grid-connected device designed for a high-voltage generator with a relatively new concept, which is mainly suitable for the control and protection of the start and stop of the generator. This device adopts optical fiber isolation, dynamic and static voltage equalization protection measures, and realizes the high-performance operation of the equipment. The device performs closed-loop control of the SCR through the grid connection momentarily, and uses the grid reactive power to excite the generator. At the same time, a special algorithm for soft grid connection is adopted, which reduces the power oscillation problem in the grid connection link.

The use of a soft grid-connected device can reduce the grid-connected impulse current of the motor and reduce the impact on the grid and the motor itself. At the same time, it also reduces the impact on the mechanical equipment, so as to prolong the service life of the equipment and reduce the failure and downtime.

Features

- The advanced optical fiber transmission technology realizes the isolation between the trigger detection of the high-voltage thyristor and the low-voltage control loop.
- The CGC is equipped with an electromagnetic lock device to prevent it from entering the high-voltage device by mistake under the condition of electrification.
- Advanced control algorithm reduces current impact and power shock during grid connection.
- Chinese and English LCD display system, user-friendly operation interface
- Built-in vacuum contactor, which can directly start the motor
- High-voltage thyristor is the main circuit component, and has voltage equalization protection and overvoltage protection systems.

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