

Partner factory of Evergreen Trading Co., Ltd.

Specialized in Manufacturing of
Power Transmission and Distribution Equipment

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Background of partner factory



Established in 1999, we have specializes in producing “FANWAH” brand high- and low-voltage switchgears and control-gear assemblies. The products are widely used in power supply, power distribution and control purposes in various sectors such as public power distribution, manufacturing industries and civil buildings.

Fanwah locates at Jiangmen City in Pearl River Delta and is benefited from its convenient transportation.



High voltage switchgear (1)



Model: KYN28A

Functions and Applications

1. Central located metal-clad high voltage switchgear.
2. All function units are separated by steel sheet from each other.
3. Can be equipped with various types of vacuum circuit breaker, such as ABB VD4, Schneider Evolis, SIEMENS 3AH, ZN18 (CK) and VS1, etc.
4. IEC60298、GB3906、DL404 standards compliant.

Rated voltage (kV):12, 24

Rated current (A) of the main busbars: 630, 1250, 1600, 2000, 2500, 3150

Rated current (A) of the branch busbars: 630, 1250, 1600, 2000, 2600, 3150

Power frequency withstand voltage (kV/1min) : 42/48(Rated voltage 12kV), 65/79(Rated voltage 24kV)

Thermal stabilizing current (4s, effective value) (kA): 20, 25, 31.5, 40

Protection level: IP4X

High voltage switchgear(2)



Model: XGN15

Functions and Applications

1. XGN15-12 is used in electric network (AC, 50Hz, 12kV) to be circulating network and terminal power supply.
2. IEC60298 and GB3906 standards compliant.
3. Latches automatically in three positions (earthing, disconnecting and closing).

Rated voltage (kV) :12

Rated frequency: 50Hz

Rated busbar current (A): 630

Rated thermal stabilizing current (3s, effective value): 20kA

Rated peak withstand current: 50kA

Rated on-off current (effective value) of fusible cutout: 31.5 kA

Power frequency withstand voltage(kV/1min): 42/48

Protection level: IP3X

High voltage switchgear(3)



Model: HXGN17

Functions and Applications

1. HXGN17-12Z switchgear is equipped with a high voltage vacuum load switch and a fusible cutout. Its characteristics include : strong breaking capacity, safe and reliable performance, long service life.
2. It is used in electric network (AC, 50Hz, 12 kV) to be circulating network and terminal power supply.

Rated voltage (kV) : 12

Rated frequency: 50Hz

Rated current (A) busbar: 630

Rated thermal stabilizing current (3s, effective value) (kV): 20

Rated peak withstand current(kV): 50

Rated on-off current (effective value) of fusible cutout(kA): 31.5

High voltage switchgear(4)



Model: HXGN12

Functions and Applications

1. HXGN-12F is a high voltage load switch switchgear equipped with ISARC pressure switch, a VEI product of Italy. It is reliably protected against operating errors.
2. It is used in the power distribution systems to be circulating network and terminal power supply in factories and residential buildings.

Rated voltage (kV) : 12

Rated current (A) of busbar : 630

Rated thermal stabilizing current (effective value) (kA) : 20

Rated switching current of fusible cutout (effective value)(kA) : 31.5

Low voltage switchgear(1)



Model: MNS

MNS 低压抽出式成套开关设备

MNS Low-voltage Withdrawable Switchgear Assemblies

性能与用途

1. 设计方案：比较小的空间能容纳较多的功能单元。
2. 结构通用性较强，组装灵活：以25mm为模数的C型型材能满足各种结构型式、防护等级及使用环境的要求。
3. 采用标准模块设计：分别组成保护、操作、转换、控制、调节、测定、指示等标准单元，用户可根据需要任意选用组装。
4. 安全性：大量采用高强度阻燃型工程塑料组件，有效加强防护安全性。
5. 技术性能高：主要参数达到当代国际技术水平。
6. 符合标准：IEC439、GB7251
7. 适用于各种配电的需要，能广泛用于住宅小区、电站、核电站、公用配电等各种工矿企业配电系统。

Functions and Applications

1. Design purpose: more functional units accommodated in the smaller space.
2. General-purpose structure and flexible assembly: shaped-material (C type), with modules based on 25mm, is able to satisfy the demands of different kinds of structural designs, protection degrees, and environments.
3. Adopting standard modular design: to form standard units respectively for protection, operation, conversion, control, adjustment, determination and indication. The clients may choose and assemble arbitrarily.
4. Safety: usage of many high intensity flame retardant engineering plastic components strengthens the protection and safety.
5. High technical performance: the principal data have reached the present international technical level.
6. Conformity of Standards: IEC439, GB7251.
7. Applied to the needs of various power distributions, can be widely used in residential sub-areas, power stations, nuclear power plant, public distribution, as power distribution system.

主要技术参数

额定绝缘电压: 660V
额定工作电压: 380V
主母线最大工作电流: 5000A
主母线短时(1s)耐受电流: 100kA(有效值)
主母线短时峰值电流: 250kA(最大值)
配电母线(垂直母线)最大工作电流: 1000A
配电母线(垂直母线)短时耐受电流: 80kA
防护等级: IP30, IP40
外形尺寸(宽×深×高)(mm):
600(800, 1000, 1200) × 800(1000) × 2200

Primary Technical Data

Rated insulation voltage: 660V
Rated working voltage: 380V
Main busbar maximum working current: 5000A
Main busbar short-time (1s) withstand current: 100kA (effective value)
Main busbar short-time peak current: 250kA (maximum)
Distribution busbar (vertical busbar) working current maximum: 1000A
Distribution busbar (vertical busbar) short-time withstand current: 80kA
Protection level: IP30, IP40
Overall dimensions (width depth height) (mm):
600(800, 1000, 1200), 800(1000), 2200

Low voltage switchgear(2)



Model: GCS

GCS 低压抽出式成套开关设备

GCS Low-voltage Withdrawable Switchgear Assemblies

性能与用途

GCS型低压抽出式开关柜主构架采用8MF型开口型钢框架，内部安装灵活方便，功能单元之间隔室之间分隔清晰、可靠、不会因某一单元的故障而影响其他单元工作，使故障局限在最小范围。

GCS装置适用于发电厂、石油、化工、冶金、纺织、高层建筑等行业的配电系统，在大型发电厂、石油化工系统等自动化程度高，要求与计算机接口的场所作为工作电压为380V，额定电流为4000A以下的发供电系统的配电、电动机集中控制，无功功率补偿使用的低压成套配电装置。

Functions and Applications

GCS type low voltage withdrawable switchgear adopts open-type (8MF) steel frame as its main frame. Its internal installation is flexible and easy, the compartments of different functional units are clearly separated, a failure occurred in one unit will not affect the others, the failure will be limited in that unit.

GCS device is applied to the power distribution system of power plant, petroleum industry, chemical industry, metallurgical industry, textile industry, high buildings. In large power plants, petroleum and chemical industry system with high automation level, the situations where require to interface with computer, as a complete set of low voltage distribution equipment for the distribution, centralized control of motors, and magner compensation of power generating and power supply system (working voltage: 380V, rated current: below 4000A).

主要技术参数

主电路额定电压(V): AC380

辅助电路额定电压(V): AC220, 380(400)
DC110, 220

额定电流(A):

水平母线: ≤ 4000

垂直母线(MCC): 1000

母线额定短时耐受电流(kA/1s): 50, 80

防护等级: IP30, IP40

外形尺寸(宽×深×高)(mm):

600(800, 1000, 1200) × 800(1000) × 2200

Primary Technical Data

Rated voltage of main circuit (V): AC380

Rated voltaage of auxiliary circuit (V): AC220, 380 (400)
DC110, 220

Rated current (A):

Horizontal busbar: ≤ 4000

Vertical busbar (MCC): 1000

Rated short-time withstand current of busbar (kA/1s): 50, 80

Protection level: IP30, IP40

Overall dimensions (width depth height) (mm):

600(800, 1000, 1200), 800(1000), 2200

Low voltage switchgear(3)



Model: GCK(L)

GCK(L) 系列电动机控制中心 GCK(L) Series Motor Control Center

性能与用途

GCK(L)主要是由一些组合式控制单元、及其他功能单元组合而成。单元结构采用抽屉式，相同功能的单元具有很强的互换性，柜体内水平母线室、垂直母线室、功能单元室及柜后方的电缆室之间相互隔离，使功能单元的故障不会扩大影响其他单元，安全可靠，而且功能单元可通过接口件与PC(可编程控制器)或微机连接，组成供配电的自动控制系统。

适用于工矿企业作为电力系统的一次配电和以异步电动机为主要控制对象的二次配电或控制设备，尤其是现代化企业中配备先进PC或微机控制的生产线上电动机的群控系统和现场控制装置。
符合标准：IEC439、GB7251

Functions and Applications

GCK(L) is composed of some combined control units and other functional units. The units are of drawer type and interchangeable. Horizontal busbar compartment, vertical busbar compartment, functional unit compartment and cable compartment at the back of the cabinet are separated from each other, failure of one functional unit will not interfere with the other units. The functional units may be connected to PC (programmable controller) and micromachine through interface components, forming an automatic control system for power supply and power distribution.

It is applicable to the primary distribution of industrial enterprises and secondary distribution or control equipment for the control of asynchronous motors, especially in the modernized enterprises, applicable to the centralized control system of motors on the production lines equipped with advanced PC or controlled by micromachine. It conforms with IEC439, GB7251 standards.

主要技术参数

额定电压(V):380

额定电流(A):

水平母线:630~4000

垂直母线:630,800,1000,1250,1600

主回路接插件:160~630

控制电动机容量(380V):0.52~155kW

额定短时耐受电流(kA):15,30,50,80

防护等级:IEC IP40

外形尺寸(宽×深×高)(mm):

600(800,1000)×800(1000)×2200

Primary Technical Data

Rated voltage (V): 380

Rated current (A):

Horizontal busbars: 630-4000

Vertical busbars: 630,800,1000,1250,1600

Main circuit inserter: 160-630

Controlled motor capacity (380V): 0.52-155kW

Rated short-time withstand current (kA): 15,30,50,80

Protection level: IEC IP40

Overall dimensions (width depth height) (mm):

600(800,1000), 800(1000), 2200

Low voltage switchgear(4)



Model: GGD

Functions and Applications

1. GGD type electrical cabinet is a kind of safe, economical, reasonable, and reliable new-type low voltage distribution cabinet, using ME, DZ20 and so on, as its main switch. Rotary knife-switch HD13BX and HS13BX are specially designed for GGD electrical cabinet, thus greatly raise the dynamic stability ability and safety of the main circuit.
2. It is used in distributing system of power consumer, such as power plants, substitution, mine and industrial enterprise with AC 50Hz, rated working voltage 380V(660V) and rated working current up to 3150A for changing and distributing

Rated voltage (V): 380(660)

Rated current (A): 400~3150

Rated short-circuit breaking current (kA) : 15, 30, 50, 80

Rated peak withstand current (kA) : 30, 63, 105, 176

Sub-station



Model: YBM(P)

YBM(P) 高压/低压预装式变电站 YBM(P) High-voltage/Low-voltage Prefabricated Substations

性能与用途

1. YBM(P)高压/低压预装式变电站为全封闭结构，防腐性强，防水性能好，散热效果好，防护等级为IP33。
2. 具有体积小结构紧凑、占地面积少、能深入负荷中心，减少线路损耗，提高供电质量；安装快捷，维护方便，运行安全可靠等特点。
3. YBM(P)高压/低压预装式变电站高压侧开关柜采用HXGN-12(F)或HXGN17-12Z型高压开关柜，XGN15-12六氟化硫开关柜，KYN中置式高压开关柜，变压器采用S11油浸式变压器或SC系列干式变压器，低压侧开关柜采用DW17，DW18系列断路器或DZ20系列塑壳开关作过载保护，熔断器作短路保护。
4. 高压开关设备具有“五防”功能和带电显示装置；变压器具有电接点温度监控、超温报警装置。
5. 适用于6-12kV环网或终端变配电用；特别适用于施工工地、高层建筑、地下设施、住宅小区、油田、码头等企事业单位作供配电用。
6. 满足 GB3906，GB7251，GB/T17467等标准。

Functions and Applications

1. YBM(P) is a fully sealed chest-type substation with strong anti-corrosiveness and water-resistant performance as well as a striking effect of dissipation of heat. The protecting degree is IP33.
2. Its characteristics are: small in volume; compact design; less floor space requirement; penetrating into load center, reducing exhaust of circuit, thus improving the quality of power supply; easy to install and maintain, safe and reliable operation.
3. The high voltage side switchgear of YBM(P) chest-type substation can be HXGN-12F or HXGN17-12Z type; XGN15-12 sulfur hexafluoride switchgear, and KYN high voltage Switchgear, adopts S11 oil-bath transformer or dry-type transformer of SC series; Low voltage side switchgear Adopts circuit breaker of DW17, DW18 or plastic-casing switch of DZ20 series as overload protection, and adopts fusible cutout as short circuit protection.
4. High voltage switchgear has "Five-prevention" functions and voltage indicator; temperature monitor and overtemperature alarm for the electric contacts of transformer.
5. It is applicable to power transformation and distribution of circulating network (6-12kV) or terminals; especially suitable for construction sites, high buildings, underground facilities, residential sub-quarters, oilfields, piers, for power supply and power distribution.
6. With GB3906, GB7251, GB/T17467 standards compliant.

主要技术参数
Primary Technical Data

| 序号 NO. | 名称 Designation | 单位 Unit | 数值 Numerical value | 备注 Remarks |
|---------------------------|---|------------|-----------------------|---|
| 高压单元 High Voltage Unit | 1 额定电压 Rated voltage | kV | 6, 12 | |
| | 2 额定频率 Rated frequency | Hz | 50 | |
| | 3 动稳定电流 Dynamic stabilizing current | kA | 50 | 峰值 Peak value |
| | 4 热稳定电流 Thermal stabilizing current | kA | 16 | 有效值 Effective value |
| | 5 工频耐压 Power-frequency withstand voltage | kV | 42 | Imin |
| | 6 雷电冲击耐压 Lightning impulse withstand voltage | kV | 75 | 全波 Full wave |
| | 7 熔断器额定开断电流 Rated fuse on-off current | kA | 31.5 | 有效值 Effective value |
| 低压单元 Low Voltage Unit | 8 变压器容量 Transformer capacity | kVA | 100~1000 | 油浸、干式 Oil-filled, dry-type |
| | 9 额定电压 Rated voltage | kA | 0.4 | |
| | 10 主进线开关额定电流 Rated current of main incoming feeder | A | 400~2000 | 按变压器容量选配 Choice depends on the capacity of transformer |
| | 11 主回路动稳定电流 Dynamic stable current of main circuit | kA | 30 | |
| | 12 主回路热稳定电流 Thermal stable current of main circuit | kA | 16 | |
| | 13 出线回路数 Number of outgoing circuit | 路 | 4~12 | 按方案或用户选择 Choice depends on scheme or user |

Bus bar channel



Model: CCX6

Functions and Applications

The intensive type insulation bus bar channel has excellent electrical performance and machinery strength, due the use of quality copper conductors, having current capacity and small voltage drop, and the use of high insulating materials.

Rated insulation voltage (AC):1000V

Rated voltage (V):380~660

Rated current (A):400~5000A

Rated frequency:50~60HZ

Power-frequency withstand voltage: 3750V/1 min

Insulation resistance of unit's bus bar channel in normal state not less than 20MW

If it is energized with rated current for a long period of time, the temperature rise of the conductor will not exceed 60° C.

Protection level: IP40

DC switchgear



Model: GZDW

Functions and Applications:

GZDW series micro-machine self-control high-frequency switching direct-current switch gear assemblies made of full separated high frequency switching mains modulators. The monitoring of insulation of bus bar is carried out by micro machine. There are interfaces connecting the central signal panel and remote sensing, remote control and remote signaling. All data can be set through the automatic of micro machine and panel.

- (1) input data:
 - input AC voltage : $380\text{VAC} \pm 15\%$
 - frequency : $45\text{-}55\text{HZ}$

- (2) Output data:
 - rated capacity : $10\text{-}200\text{AH}$
 - rated DC voltage (v): $220; 110$
 - float charging voltage: $198\text{-}298\text{v}$
 - even charging voltage: $230\text{-}315\text{v}$
 - ripple factor: $\leq \pm 0.1\%$
 - voltage-stabilizing accuracy : $\leq \pm 0.5\%$
 - current-stabilizing accuracy: $\leq \pm 0.5\%$

Terminal distribution box / control box



Terminal
Distribution Box

Wall-type
Control Box



Fire-fighting
Control Box

Thank you !

For the details, please contact Mr. Bill HUI

Mobile : +86 18816861374

E-mail: huibb@evergreentrading.org
bill.hui@gmail.com