

GCK

低压开关柜 Low-voltage Switchgear



产品概述

GCK 低压抽出式开关柜由动力配电中心 (PC) 柜和电动机控制中心 (MCC) 两部分组成。适用于发电厂、变电站、工矿企业等电力用户作为交流 50/60Hz, 最大工作电压至 690V, 最大工作电流至 3150A 的配电系统中, 作为动力配电、电动机控制及照明灯配电设备的电能转换分配控制之用。

本产品符合 IEC439 标准, 也符合 GB7251《低压成套开关设备和控制设备》国家标准, 具有分断能力高, 动热稳定性能好, 结构先进、合理、电气方案切合实际, 系列性、通用性强。各种方案单元任意组合, 一台柜体所容纳的回路较多, 节省占地面积, 外形美观, 防护等级高, 安全可靠, 维护方便等优点。

环境条件

1. 运行条件: 户内;
2. 海拔高度: $\leq 2000\text{m}$;
3. 地震烈度不大于 8 度;
4. 周围空气温度上限: $+40^{\circ}\text{C}$;
5. 24 小时平均温度上限: $+35^{\circ}\text{C}$;
6. 周围空气温度下限: -5°C ;
7. 周围环境相对湿度在 $+40^{\circ}\text{C}$ 时为 50%;
8. 没有火灾、爆炸危险、严重污秽及足以腐蚀金属和破坏绝缘的气体等恶劣场所;
9. 没有剧烈震动、颠簸的场所。

Product Summary

GCK low-voltage switchgear consists of two parts, power distribution centre (PC Panel) and motor control centre (MCC Panel). It is universally applied in power plant, city substations, industry and mine corporations etc. in 3 phase AC electrical power system at 690V max. operating voltage, 3150A max. operating current and 50/60Hz frequency. It can be applied as power distribution, electromotor control, and other electrical transfer and distribution devices.

This switchgear is according with international standard IEC439 and national standard GB7251, low-voltage switchgear and controller assemblies. The main characteristics are high breaking capacity, good performance of dynamic & thermal stability, advanced configuration, reasonable electric scheme, serials and currency. Various scheme units can be combined by user's requirements; one panel can contain more circuits for saving installation area. Its advantages are shape aesthetics, high protection degree, assured security, convenient maintenance etc.

Environmental Conditions

1. Operating Condition: Indoor.
2. Altitude: No more than 2000m.
3. Earthquake Intensity: No more than 8 degrees.
4. Ambient Temperature: No more than $+40^{\circ}\text{C}$.
5. Average temperature within 24 hours: No more than $+35^{\circ}\text{C}$.
6. Ambient Temperature: No less than -5°C .
7. Relative Humidity: 50% when the temperature is $+40^{\circ}\text{C}$.
8. No fire, explosion danger, serious dirt, chemical corrosion and violent vibration for product installed place.
9. No violent vibration, shake and bumpy site.

产品特点

本系列产品的基本框架为组合装配结构, 框架的全部结构部件能通过螺钉紧固互相连接成基本框架, 再按需要加上门、挡板、隔板、抽屉、安装支架以及母线和电器组件等零件, 组装成一台完整的开关柜。本柜有下列特点:

1. 框架采用异形钢材, 利用三维板定位, 螺栓连接无焊接结构, 从而避免了焊接变形和产生应力, 提高了安装精度, 框架及零部件安装孔按模数 $E=25\text{mm}$ 变化。
2. 内部结构件采用镀锌处理, 面板、侧板及各面板外部经酸洗和磷化处理, 采用静电环氧粉末喷涂。
3. 在动力中心 (PC) 进线柜内, 顶部为水平母线区域, 水平母线区域下部位断路器室。断路器可配置国产 CW、RMW 等系列, 也可根据用户需要配置国外电气公司生产的各种断路器, 如: ABB 公司生产的 Emax 系列断路器, 以及智能化断路器等。

Product Features

The basic frame of this series production is assembled structure, all structure component of frame can joint into basic frame by screw, then assemble door, partition, drawer, installation support, busbar and other electric components which are required, after finished those there is completely switchgear, This panel has following characteristics:

1. The frame is adopted special rolled steel, location by three-d angle plate; bolt jointed and solder less instruction, so it could avoid solder distortion and produce stress for increasing mounted precision. Installation hole of frame and components shall change by every 25mm.
2. Inner structural components have galvanization process; its external of faceplate, side plate and other faceplate have static epoxy powder spray painting after pickling and phosphatizing.
3. In the power centre (PC) incomer panel, the top is horizontal busbar region. Below the top region is circuit breaker chamber. Its circuit breaker can adopt not only CW, RMW, etc. series national production but also ABB Emax series MCCB and other smart MCCB which are produced by foreign electric company.

技术参数

序号 Sr.	名称 Content	单位 Unit	数值 Value	
1	额定工作电压 Rated Operating Voltage	V	380/690	
2	额定绝缘电压 Rated Insulation Voltage	V	660/1000	
3	额定频率 Rated Frequency	Hz	50	
4	主母线 Main Bus-Bar	额定电流 Rated Current	A	≤ 3150
		额定短时耐受电流 (1s) Rated Short-time Withstand Current(1s)	kA	≤ 80
		额定峰值耐受电流 Rated Peak Withstand Current	kA	≤ 143
5	配电母线 Distribution Bus	额定电流 Rated Current	A	≤ 1000
		额定短时耐受电流 (1s) Rated Short-time Withstand Current(1s)	kA	≤ 50
		额定峰值耐受电流 Rated Peak Withstand Current	kA	≤ 105
6	Imin 辅助回路工频耐受电压 Aux. circuit Frequency Withstand Voltage in 1min	kV	2	
7	额定脉冲耐受电压 Rated Impulse Withstand Voltage	kV	8	
8	防护等级 Protect Degree	IP	至 IP54 To IP54	
9	电气间隙 Electrical Clearance	mm	≥ 10	
10	爬电距离 Creepage Distance	mm	≥ 12.5	
11	过电压等级 Over-voltage Level	-	III / IV	
12	污染等级 Class of Pollution	-	3	

Technical Parameters

开关柜结构尺寸示意图

Structure Dimension and Sketch

