

统一电能质量调节装置

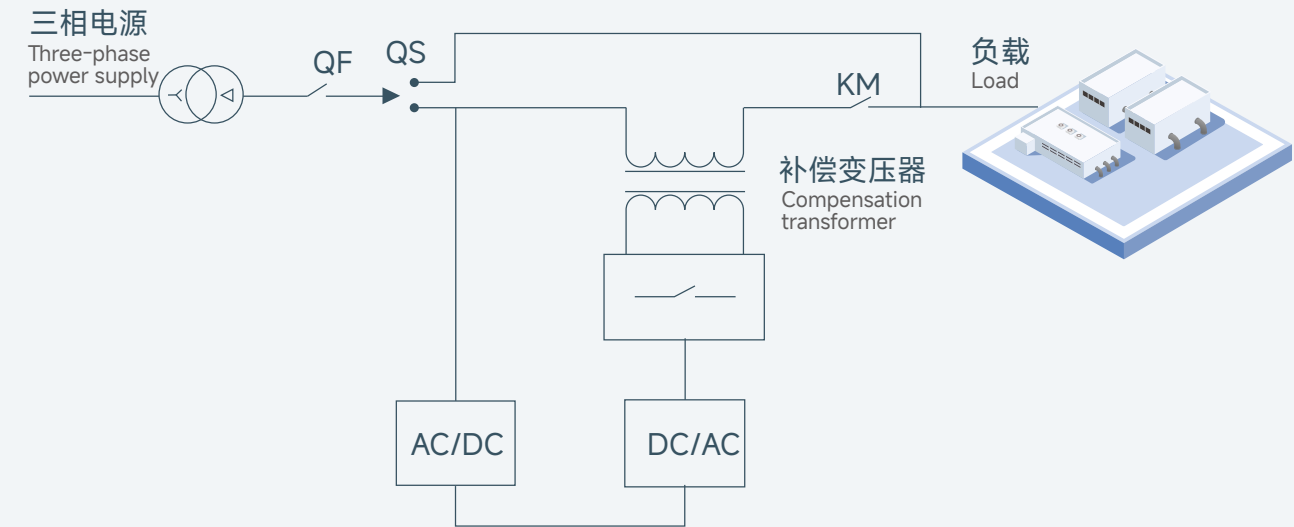
Unified power quality control device

GY-AVC

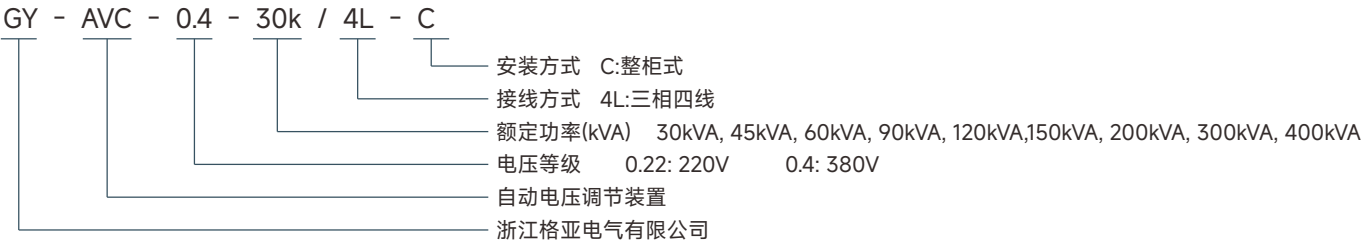
统一电能质量调节装置是由AC-DC-AC变换器、断路器QF、接触器KM以及补偿变压器组成。AC-DC-AC变换器采用全控型电力电子器件，可以实现能量双向流动;旁路开关是在检修时切到旁路状态;接触器KM是在补偿状态下，断开或者接通负载用。自动电压调节装置通过采样电网电压，实时监测电网电压是否偏离设定值，一旦偏离设定值，即控制AC-DC-AC变换器输出与电网电压极性相同或相反的电压，调节串联在主回路中补偿变压器的电压幅值和极性，保证负载端电压的稳定。

Unified power quality control device (AVC) device consists of an AC-DC-AC converter, a circuit breaker QF, a contactor KM, and a compensation transformer. The AC-DC-AC converter employs fully-controlled power electronic devices, enabling bidirectional power flow. The bypass switch is used to switch to the bypass state during maintenance. The contactor KM is used to disconnect or connect the load under the compensation state. The AVC device samples the grid voltage and monitors in real time whether the grid voltage deviates from the set value. Once a deviation is detected, it controls the AC-DC-AC converter to output a voltage with the same or opposite polarity as the grid voltage, thereby adjusting the magnitude and polarity of the voltage across the compensation transformer which is connected in series in the main circuit, so as to ensure the stability of the load-side voltage.

工作原理 Working Principle



产品型号及外观 Product model and appearance



性能特点 Performance characteristics

- (1)实时控制AC-DC-AC变换器输出电压，保证负载端电压稳定。
 - (2)电压无级调节，调节精度高，调节过程不间断。
 - (3)补偿电压幅值和速度可以控制，且分相控制输出电压，适应严重不平衡负载。
 - (4)变换器采用模块化设计，维护方便、扩展性好。
 - (5)具备过载保护、软/硬件过流保护、电网过/欠压保护、过温保护、频率异常保护等，提高供电的可靠性。
 - (6)具有故障报警及记忆功能，可存储30个故障天的故障记录，在存储范围内，不限条数。
- (1) Real time control of AC-DC-AC converter output voltage to ensure stable load terminal voltage.
(2) Voltage stepless regulation, high regulation accuracy, and uninterrupted regulation process.
(3) The amplitude and speed of the compensation voltage can be controlled, and the output voltage can be controlled by phase separation to adapt to severely unbalanced loads.
(4) The converter adopts modular design, which is easy to maintain and has good scalability.
(5) Equipped with overload protection, software/hardware overcurrent protection, power grid overvoltage/undervoltage protection, over temperature protection, frequency anomaly protection, etc., to improve the reliability of power supply.
(6) It has fault alarm and memory functions, and can store fault records for 30 fault days. There is no limit to the number of records within the storage range.

技术参数 Technical parameters

输入电压 Input voltage	220V(单相Single Phase)	380V+N(三相Three-Phase)
输入范围 Input Range	±20%(额定电压) ± 20% (rated voltage)	
输入频率 Input frequency	50Hz/60Hz±1.5Hz 50Hz/60Hz±1.5Hz	
电流谐波畸变率 current hamonic distortion rate	增量≤3% Increment ≤ 3%	
电压谐波畸变率 Voltage harmonic distortion rate	增量≤3% Increment ≤ 3%	
输出电压 Output voltage	220V±1% 220V±1%	
输出电压设置范围 Output voltage setting range	输入电压的±20% ± 20% of input voltage	
调压方式 Voltage regulation method	无级、无触点 Stepless and contactless	
调节方式 Adjustment method	单相调节 Single-phase regulation	
谐波畸变 Harmonic distortion	≤3% ≤ 3%	
效率 Efficiency	≥95% ≥95%	
功率因数 Power factor	0.5滞后到0.7超前 0.5 lag to 0.7 lead	
7寸触摸屏 7-inch touch screen	提供参数设置，功率信息显示，故障记录，历史曲线等 Provide parameter settings, power information display, fault records, historical curves, etc	
保护功能 Protection function	输入过压/欠压保护、输出过压/欠压保护、输入过流保护、变压器过温保护、输出过载保护等 Input overvoltage/undervoltage protection, output overvoltage/undervoltage protection, input over current protection, transformer over temperature protection, output overload protection, etc	
相对湿度 Relative humidity	≤90%，月最低温度25℃表面无凝露 ≤ 90%, monthly minimum temperature 25 ° C, no condensation on the surface	
海波高度 Sea wave height	2000m以下 Below 2000m	
污秽等级 Pollution level	Ⅲ级以下 Below Level III	
噪音 Noise	≤65dB ≤65dB	
工作温度 Operating Temperature	-10℃~+50℃ -10°C~+50°C	
储存温度 Storage temperature	-30℃~+70℃ -30°C~+70°C	
散热方式 Cooling method	强制风冷 forced air cooling	
防护等级 Protection level	Ip20 Ip20	