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电能质量

Power Quality Management

Product Manual

浙江格亚电气有限公司

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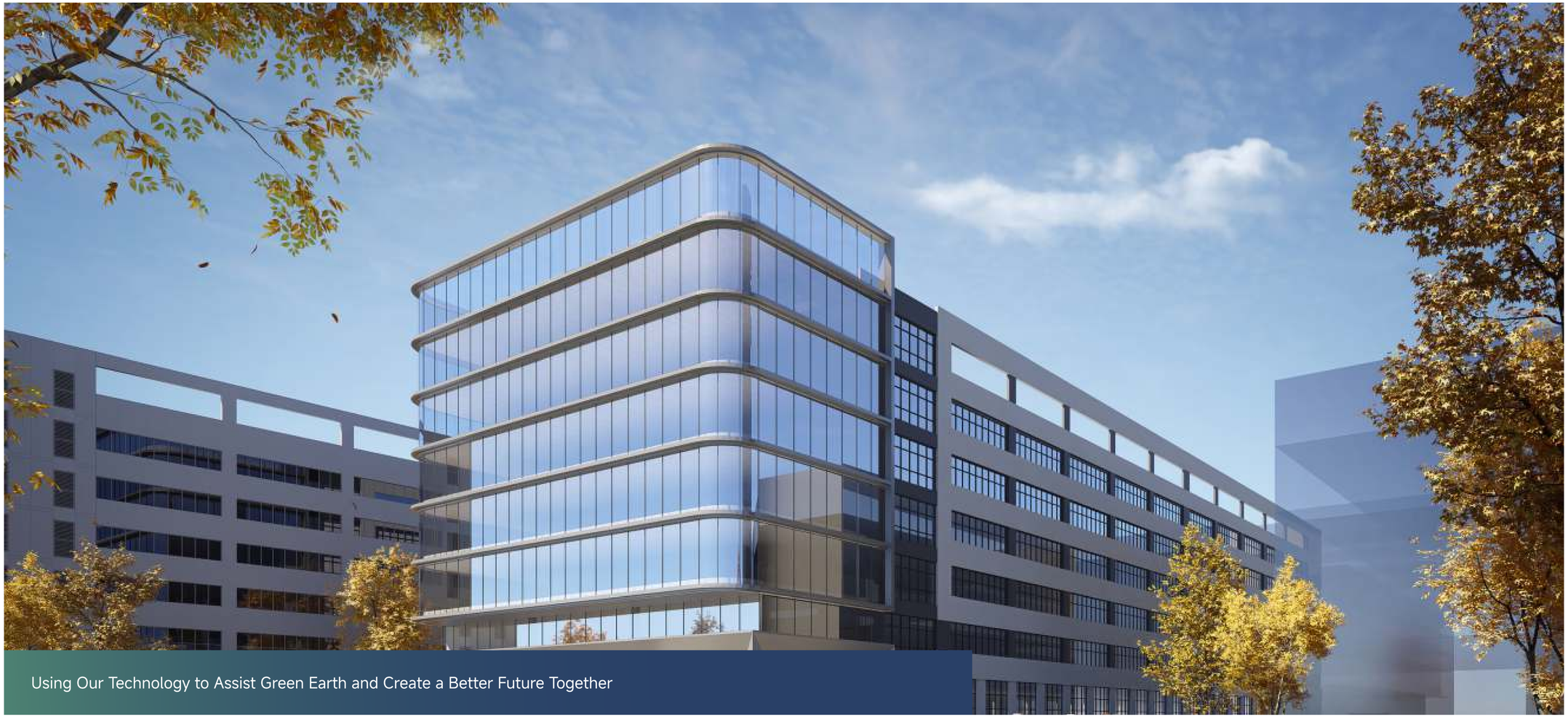


Using Our Technology to Assist Green Earth and Create a Better Future Together

ABOUT US

浙江格亚电气有限公司成立于2007年2月，地处浙江温州，是一家专业从事新能源电气与自动化控制产品自主研发、生产、销售及配套服务的高新技术企业。公司具备完整全产业链运营能力，依托规范经营管理与持续技术创新，综合实力稳步提升，年营业额已突破2亿元人民币，综合产能及行业综合实力位居区域行业前列。

公司主营低压电器元件、工业自动化控制元件全系列核心品类，可同步提供低压配电系统、自动化控制系统、新型智能电力系统定制化成套解决方案，可对接各类政企工程、工贸企业、跨境项目，交付一站式全流程配套服务。产品适配多类工业、基建、新能源全域应用场景，性能稳定、合规达标率高，收获海内外客户一致认可与长效好评。公司深耕全球化市场布局，销售网络覆盖全球六大洲，累计服务一万余家海外合作企业，渠道体系成熟完善。现面向全球开放区域代理、批量集采、专项项目共建等多元合作模式，携手共建电气产业共赢生态。

自成立以来，公司秉持“格物知致，亚行天下”企业理念，坚守品质为先、创新赋能核心发展原则，严控产品高标准、高性价比、高品质三道核心关口。目前已斩获多项国家实用发明专利，完成GEYA品牌多国全域合规布局。全系产品严格对标国际行业准入标准，顺利取得CCC、CE、SAA、SEMKO、TUV、EN等国内外权威全套资质认证，全面符合欧洲、中东等多国属地质量核验标准，跨境供货合规无壁垒。公司可正规承接全球客户OEM、ODM定制化代工研发服务，已与多家国际知名电气品牌达成长期稳定战略合作。专业实战型营销服务团队全域联动，稳步拓宽海内外品牌市场版图，持续强化品牌核心竞争力。

格亚电气诚邀海内外优质代理商、渠道商及工程合作伙伴携手拓市，共享行业发展红利。我们将以过硬原装全系产品、高效全天候专属配套服务、极具市场竞争力的合作扶持政策，全方位护航合作伙伴稳定创收、长效经营。

格亚电气匠心做品质、专心做科创、诚心做合作，期待与全球客商同心同行，共创电气行业高质量发展新未来！

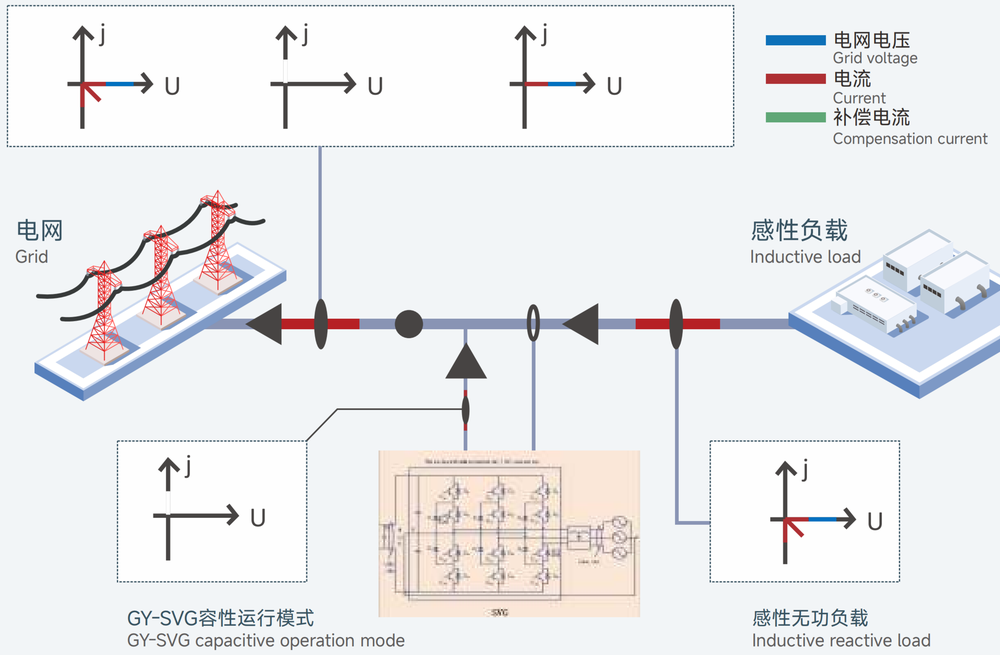
静止无功发生装置

Static Var Generator

GY-SVG-PLUS

静止无功发生装置-高配机型（GY-SVG-PLUS）的工作原理是将电压源变流器通过滤波器并联在电网上，通过调节变流器交流侧输出电压的幅值和相位，针对电网系统中无功功率进行动态精准补偿，瞬态响应时间小于50us，全响应时间小于10ms，避免过补和欠补的发生。同时装置中性线零序电流滤波能力可达相线三倍，EMC电磁兼容性能更优，稳定性更好。

Working principle of the high-configuration model Static Var Generator (GY-SVG-PLUS):
The device connects a voltage source converter (VSC) to the power grid via a filter in parallel. By adjusting the amplitude and phase of the output voltage on the AC side of the converter, it dynamically and accurately compensates for reactive power in the grid system. The transient response time is less than 50 μs, and the full response time is less than 10 ms, thereby avoiding over-compensation and under-compensation. In addition, the device's neutral line zero-sequence current filtering capability can reach three times the phase line current. It also offers improved EMC electromagnetic compatibility performance and better stability.



壁挂式模块
Wall-mounted module

机架式模块
Rack-mounted module

性能特点 Performance characteristics

1）DSP+CPLD全数字控制核心，三电平拓扑技术，先进的无功检测算法和PWM控制策略。
2）模块化设计，可多模块并联，占地空间小、维护方便。
3）独立风道和独立板仓结构设计，保证设备的稳定运行。
4）具有两路外部电流采样通道，可支持低压侧采样低压侧补偿、高压侧采样低压侧补偿、无功分量补偿等多种补偿方式。
5）支持无功补偿、无功补偿+三相不平衡补偿模式可选。
6）无功补偿能力：补偿率≥99%。
7）不平衡补偿能力：补偿后不平衡度≤5%。
8）中性线零序电流滤波能力为相线三倍。
9）对负载的动态响应速度为毫秒级，能实现对冲击性无功功率负荷的动态精准补偿。
10）EMC电磁兼容RE、CE项目满足Class A测试标准。

1.DSP+CPLD full digital control core, three-level topology technology, advanced reactive power detection algorithm, and PWM control strategy.
2.Modular design, supports paralleling of multiple modules, small footprint, easy maintenance.
3.Independent air duct and independent board compartment structure design to ensure stable operation of the device.
4.Equipped with two external current sampling channels, supporting various compensation modes such as low-voltage side sampling with low-voltage side compensation, high-voltage side sampling with low-voltage side compensation, and reactive component compensation.
5.Supports selectable compensation modes: reactive power compensation, or reactive power compensation + three-phase unbalance compensation.
6.Reactive power compensation capability: compensation rate ≥ 99%.
7.Unbalance compensation capability: unbalance degree after compensation ≤ 5%.
8.Neutral line zero-sequence current filtering capability is three times that of the phase line current.
9.Dynamic response speed to load is millisecond level, enabling dynamic and accurate compensation for impact reactive power loads.
10.EMC electromagnetic compatibility: RE and CE items meet Class A test standard.

技术参数：

机型 Model	220V	380V
海拔高度 Altitude	<2000m,2000米以上按照GB/T3859.2降额使用 <2000 m; above 2000 m, derate according to GB/T 3859.2	
环境温度 Ambient temperature	-10~+50°C(40°C以上降容不超过30%) -10 to +50 °C (above 40 °C, capacity derating ≤30%)	
相对湿度 Relative humidity	≤90%，月最低温度25°C表面无凝露 ≤90% relative humidity, no condensation on the surface at a monthly minimum temperature of 25 °C	
污秽等级 Pollution degree	III级以下 Pollution degree ≤ Class III	
工作电压 Operating voltage	AC220V（-20%～+20%）	380V（-20%～+20%）
工作频率 Operating frequency	50Hz/60Hz（45Hz～63Hz）	
额定补偿容量 Rated compensation capacity	37kvar、50kvar	75kvar、100kvar
电网结构 Grid configuration	三相三线，三相四线 Three-phase three-wire, three-phase four-wire	
并联台数 Number of parallel units	不限 unlimited	
整机效率 Overall efficiency	≥97%	
开关频率 Switching frequency	16kHz	
功能选择 Function selection	无功补偿、无功补偿+三相不平衡补偿 Reactive power compensation / Reactive power compensation + three-phase unbalance compensation	
无功补偿率 Reactive compensation rate	无功补偿≥99% Reactive power compensation ≥99%	
不平衡补偿能力 Unbalance compensation capability	补偿后不平衡度≤5% Unbalance degree after compensation ≤5%	
全响应时间 Full response time	< 10ms	
噪音 Noise level	≤65dB	
通讯方式 Communication method	2路RS485通信接口（支持Wi-Fi） 2 RS485 communication ports (Wi-Fi supported)	
保护功能 Protection functions	过载、软/硬件过流、电网过欠压、电网电压不平衡、电源故障、过温、频率异常、短路保护、谐振保护等 Overload, software/hardware overcurrent, grid overvoltage/undervoltage, grid voltage unbalance, power supply failure, overtemperature, frequency anomaly, short circuit protection, resonance protection, etc.	
过载能力 Overload capability	额定1.2倍过载60秒 Rated 1.2 times overload for 60 seconds	
安装方式 Installation method	机架/壁挂 Rack / wall-mounted	
进线方式 Cable entry	后进线(机架式)、上进线(壁挂式) Rear cable entry (rack-mount), top cable entry (wall-mounted)	
防护等级 Protection rating	IP20(IP54可定制) IP20 (IP54 customizable)	
中性线滤波能力 Neutral line filtering capability	中性线滤波能力为相滤波能力的3倍 Neutral line filtering capacity is 3 times that of phase filtering capacity	
冷却方式 Cooling method	强制风冷 Forced air cooling	
电磁兼容 Electromagnetic compatibility	EMC电磁兼容RE、CE项目满足Class A测试标准 EMC (Electromagnetic Compatibility) – Radiated Emission (RE) and Conducted Emission (CE) meet Class A test standard	