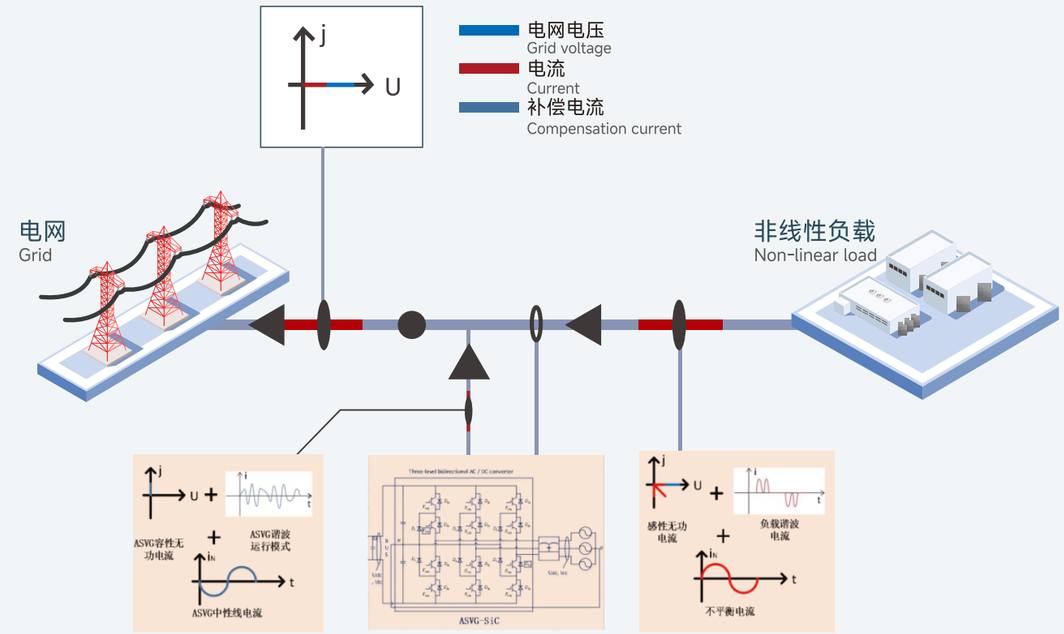
硅化碳型增强型静止无功发生装置

SiC-based Advanced Static Var Generator

Y-ASVG-SiC

碳化硅增强型静止无功发生装置（ Y-ASVG-SiC）以碳化硅功率器件为核心，将电压源变流器通过滤波器并联在电网上，其工作原理是通过实时检测负载的电流，基于先进的无功、谐波及三相有功功率的检测与控制算法，生成对应的 IGBT 驱动信号，实现对无功电流、谐波电流以及三相不平衡有功功率的综合补偿。同时，装置峰值效率达 98.5%以上，单柜可容纳 8 台模块，最大容量可达 800Kvar，安装维护方便。

Silicon Carbide Enhanced Static Var Generator （ Y-ASVG-SiC)
Using silicon carbide (SiC) power devices as the core, the YASVG-SiC connects a voltage source converter (VSC) to the power grid via a filter in parallel. Its working principle is to detect the load current in real time and, based on advanced detection and control algorithms for reactive power, harmonics, and three-phase active power, generate corresponding IGBT drive signals to achieve comprehensive compensation of reactive current, harmonic current, and three-phase unbalanced active power. In addition, the device achieves a peak efficiency of over 98.5%. A single cabinet can accommodate up to 8 modules, with a maximum capacity of 800 Kvar, offering easy installation and maintenance.





性能特点 Performance characteristics

1) DSP+CPLD 全数字控制核心，三电平拓扑技术。2）降低模块损耗，提升模块效率，峰值效率达 98.5%以上。3）高功率密度模块化设计，单柜可容纳 8 台模块，最大容量可达 800Kvar，安装维护方便。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）通过更高开关频率控制算法，减小输出波纹电流，提升动态响应速度。6）利用 SiC 功率器件的更高耐压能力，同时简化热设计和电磁兼容设计，提升产品的可靠性。7）无功补偿能力：补偿率≥99%。8）不平衡补偿能力：补偿后不平衡度≤5%。9）电流谐波补偿能力：补偿率≥95%；2～50 次，单次补偿率可调。10）中性线零序电流滤波能力为相线三倍。11）可设定 100%限流输出，保证设备长期稳定运行。12）支持无功补偿、谐波补偿、三相不平衡补偿任意一种、两种或三种搭配可选。

1)DSP+CPLD full-digital control core, three-level topology technology. 2)Reduced module losses, improved module efficiency; peak efficiency up to 98.5% or higher.
3)High power density modular design; a single cabinet can accommodate 8 modules with a maximum capacity of 800 Kvar, easy installation and maintenance.
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)Higher switching frequency control algorithm reduces output ripple current and improves dynamic response speed. 6)Utilizes the higher voltage withstand capability of SiC power devices while simplifying thermal design and electromagnetic compatibility (EMC) design, enhancing product reliability. 7)Reactive power compensation capability: compensation rate ≥99%. 8)Unbalance compensation capability: unbalance degree after compensation ≤5%. 9)Current harmonic compensation capability: compensation rate ≥95%; 2nd to 50th harmonics, individual compensation rate adjustable. 10)Neutral line zero-sequence current filtering capacity is three times that of the phase line. 11)Supports 100% current-limiting output to ensure long-term stable operation of the equipment.
12)Supports any one, any two, or all three of reactive power compensation, harmonic compensation, and three-phase unbalance compensation as selectable options.

技术参数 Technical parameters

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%)	AC380V(-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 No restrictions	
整机效率 Overall efficiency	≥98%	
开关频率 Switching frequency	30kHz	
功能选择 Function selection	无功补偿、谐波补偿、无功补偿+谐波补偿、谐波补偿+无功补偿、谐波补偿+三相不平衡补偿、无功补偿+三相不平衡补偿、谐波补偿+三相不平衡补偿+无功补偿、无功补偿+三相不平衡补偿+谐波补偿 The translations are: reactive power compensation, harmonic compensation, reactive power and harmonic compensation, harmonic and reactive power compensation, harmonic and three-phase unbalance compensation, reactive power and three-phase unbalance compensation, harmonic, three-phase unbalance, and reactive power compensation, and reactive power, three-phase unbalance, and harmonic 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%	
电流谐波补偿能力 Current harmonic compensation capability	电流谐波补偿≥95% Current harmonic compensation ≥95%	
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.	
全响应时间 Full response time	无功＜10ms，谐波<40ms Reactive power: <10ms, Harmonics: <40ms	
冷却方式 Cooling mode	强制风冷 Forced air cooling	
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 interfaces (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 overload 1.2 times for 60 seconds	
安装方式 Installation method	机架/壁挂 Rack-mount / Wall-mount	
进线方式 Cable entry	后进线(机架式)、上进线(壁挂式) Rear line (rack mounted), upper line (wall mounted)	
防护等级 Protection rating	IP20(IP54可定制) IP20 (IP54 available on request / customizable)	
尺寸（W*D*H） Size	500*600*100mm	