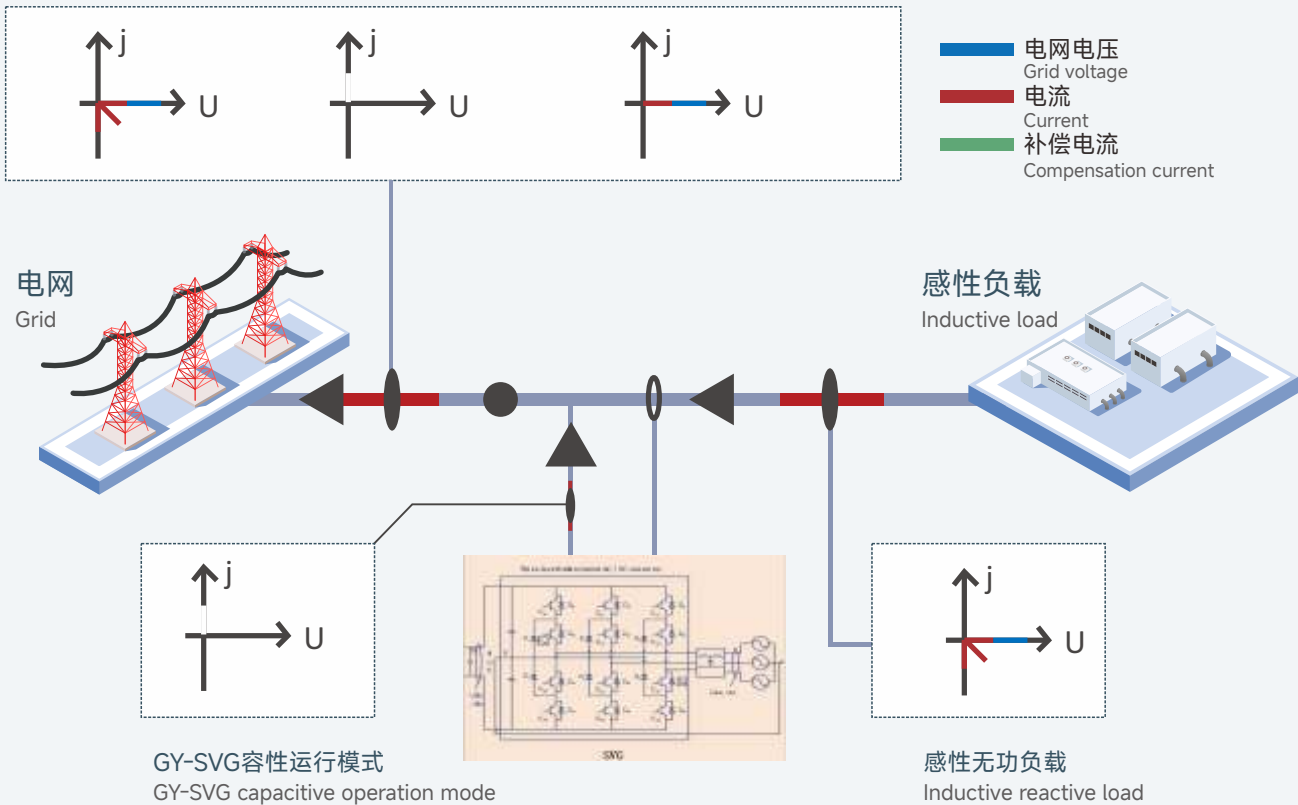


静止无功发生装置
Static Var Generator
GY-SVG

静止无功发生装置（GY-SVG）的工作原理是将电压源变流器经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。

Working Principle of Static Var Generator (GY-SVG):
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.



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) 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。
- 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.Dynamic response speed to load is millisecond level, enabling dynamic and accurate compensation for impact reactive power loads.

技术参数 Technical parameters

机型 Model	220V	220V	380V	500V	690V	800V
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℃(40℃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℃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%)	AC220V (-20%~+20%)	AC380V (-20%~+20%)	AC500V (-20%~+20%)	AC690V (-20%~+15%)	AC800V (-20%~ 850V Max)
工作频率 Operating frequency	50Hz/60Hz (45Hz~63Hz)					
额定补偿容量 Rated compensation capacity	5Kvar	3/5/7/ 10/17/25 /37/50/ 75Kvar	5/10/15/ 20/35/50/ 75/100/ 150Kvar	90Kvar	120Kvar	150Kvar
电网结构 Grid configuration	L/N	三相三线，三相四线 Three-phase three-wire Three-phase four-wire				三相三线 Three-phase three-wire
并联台数 Number of parallel units	不限 No restrictions					
整机效率 Overall efficiency	≥97%					
开关频率 Switching frequency	16kHz			12.8kHz		
功能选择 Function selection	无功补偿 Reactive power compensation	无功补偿、无功补偿+三相不平衡补偿 Rated overload 1.2 times for 60 seconds				无功补偿 Reactive power 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	≤60dB	≤65dB			≤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、电源故障、过温、频率异常等 Overload, software/hardware overcurrent, grid over-/undervoltage, power supply failure, overtemperature, frequency anomaly, etc.	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、短路保护等 Overload, software/hardware overcurrent, grid over-/undervoltage, grid voltage imbalance, power supply failure, overtemperature, frequency anomaly, short-circuit 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) Rack-mount / Wall-mount					
防护等级 Protection rating	IP20(IP54可定制) IP20 (IP54 available on request / customizable)					