

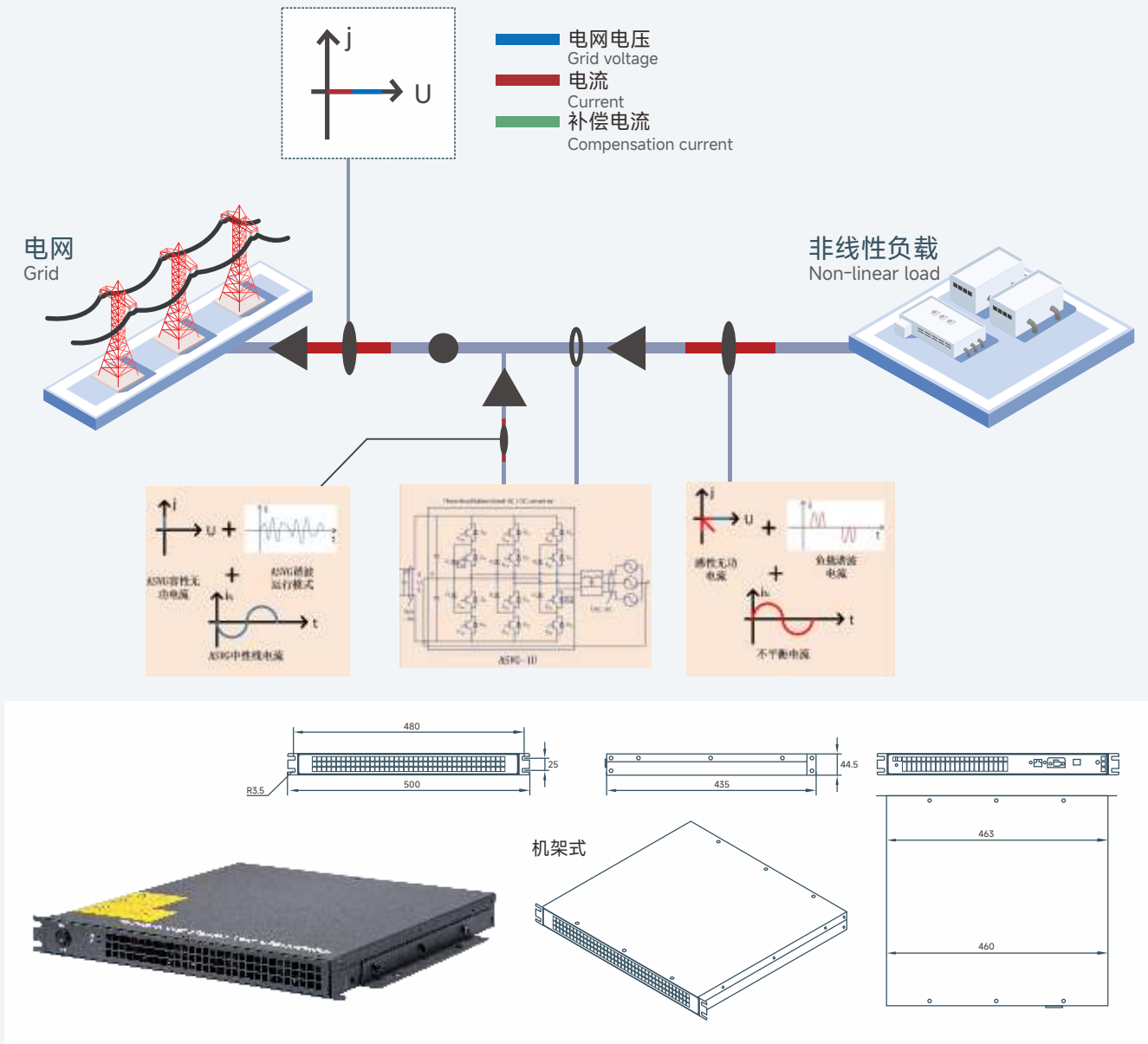
IU型静止无功发生装置

1U Rack-mount Advanced Static Var Generator

GY-ASVG-IU

增强型静止无功发生装置（GY-ASVG-1U）采用 1U 厚度设计，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。

Enhanced Static Var Generator (GY-ASVG-1U)
The device features a 1U thickness design and 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.



性能特点 Performance characteristics

- 1) DSP+CPLD 全数字控制核心、三电平拓扑技术、先进的谐波检测算法和 PWM 控制策略。2) 低噪音设计，噪音小于 60dB。3) 模块化设计，可多模块并联，占地空间小、维护方便。4) 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。5) 无功补偿能力：≥99%。6) 不平衡补偿能力：补偿后不平衡度≤5%。7) 电流谐波补偿能力：补偿率≥95%；2~50 次，单次补偿率可调。8) 可设定 100%限流输出，保证设备长期稳定运行
- 1.DSP+CPLD full-digital control core, three-level topology technology, advanced harmonic detection algorithm and PWM control strategy.
 - 2.Low noise design, noise level <60dB.
 - 3.Modular design with multi-module parallel connection; small footprint, easy maintenance.
 - 4.Supports any one, any two, or all three of reactive power compensation, harmonic compensation, and three-phase unbalance compensation as selectable options.
 - 5.Reactive power compensation capability: ≥99%.
 - 6.Unbalance compensation capability: unbalance degree after compensation ≤5%.
 - 7.Current harmonic compensation capability: compensation rate ≥95%; 2nd to 50th harmonics, individual compensation rate adjustable.
 - 8.Supports 100% current-limiting output to ensure long-term stable operation of the equipment.

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	3Kvar	5Kvar
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	≥97%	
开关频率 Switching frequency	16kHz	
功能选择 ① Function selection	A、B、A+B、B+A、B+C、A+C、B+C+A、A+C+B	
无功补偿率 Reactive power compensation rate	无功补偿≥99% Reactive power compensation ≥99%	
不平衡补偿能力 Reactive compensation rate	补偿后不平衡度≤5% Unbalance degree after compensation ≤5%	
电流谐波补偿能力 Unbalance compensation capability	电流谐波补偿≥95% Current harmonic compensation ≥95%	
中性线滤波能力 Neutral line filtering capacity	中性线滤波能力为相滤波能力的 1.5倍 Neutral line filtering capacity is 1.5 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	
噪音 Noise level	≤60dB	
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) Rack-mount / Wall-mount	
防护等级 Protection rating	IP20(IP54可定制) IP20 (IP54 available on request / customizable)	
尺寸 (W*D*H) Size	460*435*44.5mm	

- ① A:无功补偿 Reactive compensation B:谐波补偿 Harmonic compensation
C:三相不平衡补偿 Three-phase unbalance compensation