

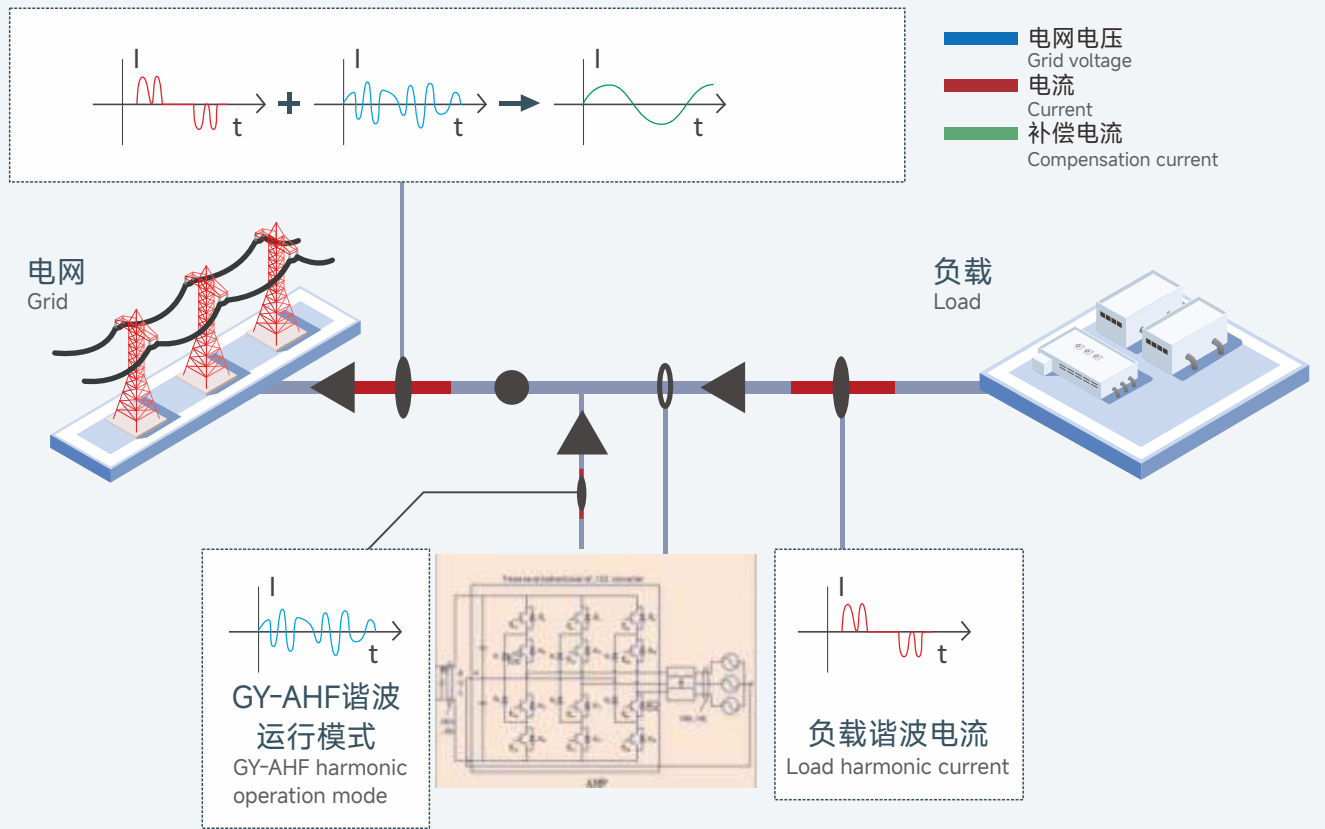
有源电力滤波装置

Active Harmonic Filter

GY-AHF

有源电力滤波装置（GY-AHF）的工作原理是实时检测负载电流，基于指定次谐波电流检测算法将谐波电流逐次分离，按照设定的滤波百分比生成控制信号，驱动 IGBT 输出与负载谐波电流幅值相同相位相反的补偿电流，实现谐波补偿功能。

The working principle of the active power filter device (GY-AHF) is to detect the load current in real time. Based on a specified sub harmonic current detection algorithm, the harmonic current is gradually separated, and a control signal is generated according to the set filtering percentage to drive the IGBT to output a compensation current with the same amplitude and opposite phase as the load harmonic current, achieving harmonic compensation function.



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) 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) 可设定 100%限流输出，保证设备长期稳定运行。
- (5) 支持谐波补偿、谐波补偿+三相不平衡补偿模式可选。
- (6) 电流谐波补偿能力：补偿率≥95%。
- (7) 不平衡补偿能力：补偿后不平衡度≤5%。

- (1) DSP+CPLD full digital control core, three-level topology technology, advanced harmonic detection algorithm, and PWM control strategy.
- (2) Modular design allows multiple modules to be connected in parallel, with small footprint and easy maintenance.
- (3) The independent air duct and independent plate compartment structure design ensure the stable operation of the equipment.
- (4) 100% current limiting output can be set to ensure long-term stable operation of the equipment.
- (5) Supports optional modes of harmonic compensation, harmonic compensation+three-phase unbalance compensation.
- (6) Current harmonic compensation capability: compensation rate ≥ 95%.
- (7) Unbalance compensation capability: The imbalance degree after compensation is ≤ 5%.

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	25A	7/15/25/50/750/100/ 150/200A			100A	100A
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	谐波补偿 harmonic compensation	谐波补偿、谐波补偿+三相不平衡补偿 Harmonic compensation, harmonic compensation+three-phase unbalance compensation				谐波补偿 harmonic compensation
电流谐波补偿范围 Current harmonic compensation	2~50 次，单次补偿率可调 2-50 times, with adjustable compensation rate per time					
电流谐波补偿能力 Current harmonic compensation	电流谐波补偿≥95% Current harmonic compensation ≥ 95%					
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	< 40ms					
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.					
Overload capability						
过载能力 Installation method	额定1.2倍过载60秒 Rated overload 1.2 times for 60 seconds					
安装方式 Cable entry	机架/壁挂 Rack-mount / Wall-mount					
进线方式 Protection rating	后进线(机架式)、上进线(壁挂式) Rack-mount / Wall-mount					
防护等级	IP20(IP54可定制) IP20 (IP54 available on request / customizable)					