Overview
纲要

SmartGen can provide the most perfect and mature solutions for single genset automation, multi-parallel, EFI genset with high-voltage and non-EFI genset with high-voltage.

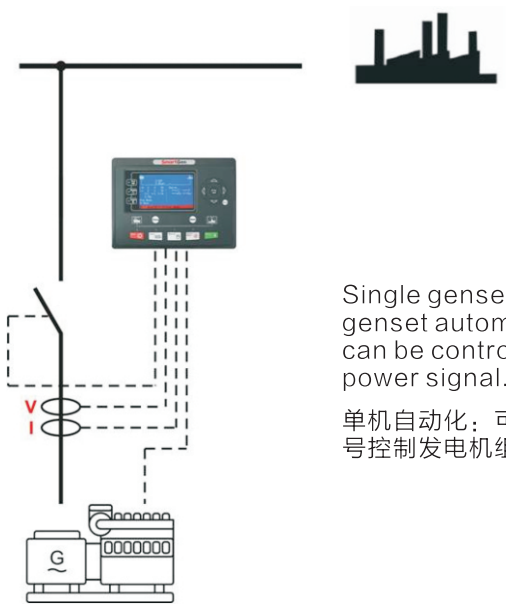
无论单机自动化还是多机并联，无论电喷高压机组还是非电喷高压机组，SmartGen都能提供最完美最成熟的解决方案。

SmartGen high-voltage control system can control high-voltage genset as well as ensure operators'safety.

SmartGen高压控制系统既能完善控制高压机组，又能充分保证操作人的安全。

Application---Single Genset Automation
应用方案---单机自动化

Self-starting/自启动方案（HGM7110A, HGM7210, HGM7210CAN, HGM8110B, HGM9310MPU, HGM9310CAN, HGM9610）



Single genset automation: genset automatic start/stop can be controlled by remote power signal.

单机自动化：可通过远端开机信号控制发电机组自动开机与停机

高压机组解决方案
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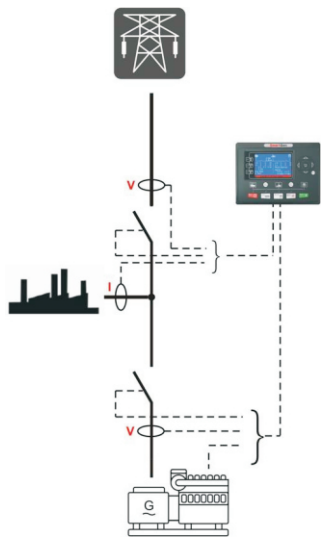
AMF Solution/AMF解决方案（HGM7120A、HGM7220、HGM7220CAN、HGM8120B、HGM9320MPU、HGM9320CAN、HGM9620）

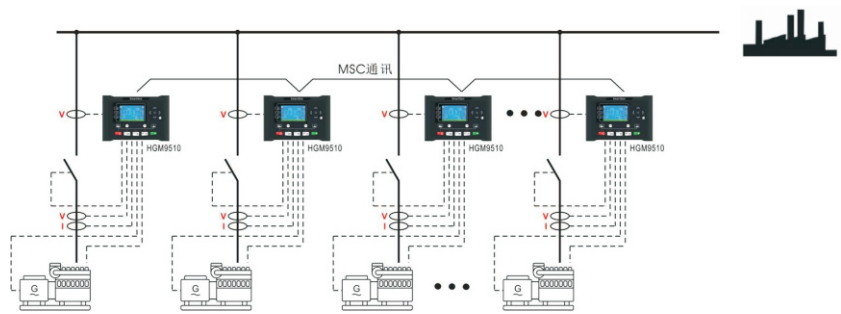


AMF function: apply to single genset automation system(one mains and one genset)

AMF功能：适用于一市一机构成的单机自动化系统

Application---Parallel
应用方案---并联

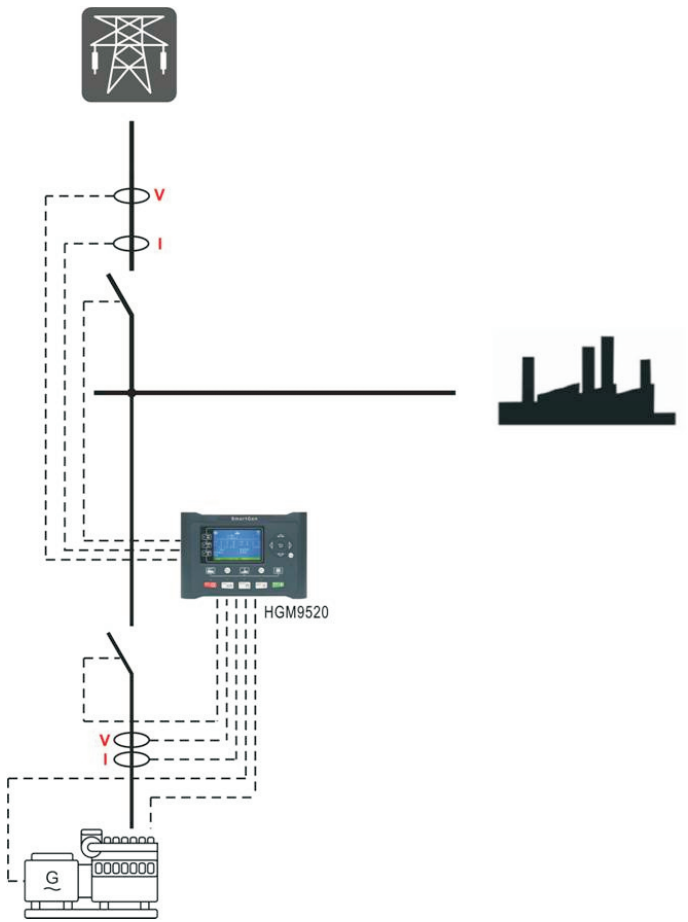
Genset Parallel/机组并联（HGM9510）



Multi-parallel: help 32 gensets with same capacity/different capacity to realize automatic synchronization and load share.

机组并联：可满足多达32台同容量或不同容量的机组自动同步和负载均分

Single Genset Parallel in Grid (HGM9520)
单机并网（HGM9520）



Single genset parallel in grid：single genset parallel with mains automatically/manually,and with various parallel mode selection.

单机并网：单台发电机组与市电的手动/自动并联,且有多种与市电并联运行的模式可选择

高压机组解决方案
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Characteristic---Single Genset Automation
产品特点---单机自动化

HGM7000 Series
HGM7000系列

HGM7110A/7210/7210CAN

HGM7120A/7220/7220CAN

Characteristics:

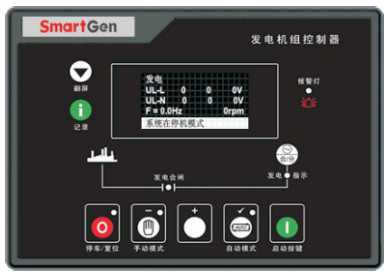
1.Engine and generator protection
2.Automatic start or mains fail self-starting function(AMF function)
3.Apply to EFI (J1939) or non-EFI engine
4.7 digital inputs/8 relay outputs/5 analog inputs
5.USB programming interface
6.Scheduled start/stop function (HGM7100A series do not have this function)
7.SMS control (HGM 7100 series do not have this function)
8.Real-time clock & event log
9.Remote monitoring via Modbus RS485(HGM7100 series do not have this function)

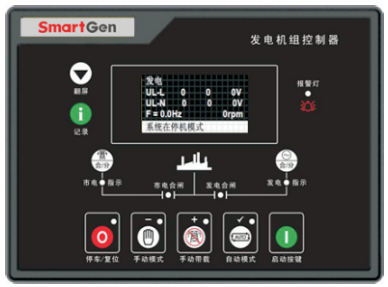
特点：

1.发动机和发电机保护
2.自动起动或市电异常自启动功能（AMF功能）
3.适用于电喷（J1939）或非电喷发动机
4.7个开关量输入/8个继电器输出/5个模拟量输入
5.USB编程接口
6.调度控制---定时开关机（HGM7100A系列无此功能）
7.短信控制（HGM7100系列无此功能）
8.实时时钟＆历史记录
9.通过Modbus RS485实现远程监控（HGM7100系列无此功能）

Characteristic---Single Genset Automation
产品特点---单机自动化

HGM8100B Series
HGM8100B系列





Characteristics:

1.Engine and generator protection
2.Automatic start or mains fail self-starting function(AMF function)
3.VFD display---minus 40℃ low temperature display
4.Remote monitoring with Modbus RS485
5.RS232 programming interface
6.6 digital inputs/8 relay outputs/5 analog inputs
7.Scheduled start/stop function
8.Real-time clock
9.Event log

特点：

1.发动机和发电机保护
2.自动起动或市电异常自启动功能（AMF功能）
3.VFD显示---零下40℃低温显示
4.通过Modbus RS485实现远程监控
5.RS232编程接口
6.6个开关量输入/8个继电器输出/5个模拟量输入
7.调度功能---定时开关机
8.实时时钟
9.历史记录

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HGM9300 Series
HGM9300系列

HGM9310MPU / 9310CAN

HGM9320MPU / 9320CAN

Characteristics:

1.Engine and generator protection
2.Automatic start or mains fail self-starting function(AMF function)
3.Apply to EFI(J1939) or non-EFI engine
4.Remote monitoring via Modbus RS485
5.8 digital inputs/8 relay outputs/5 analog inputs
6.Scheduled start/stop function
7.SMS control
8.Real-time clock & event log
9.Neutral line current detection
10.PLC (programmable logic control) function
11.With total run A/B and total energy A/B

特点：

1.发动机和发电机保护
2.自动起动或市电异常自启动功能（AMF功能）
3.适用于电喷（J1939）或非电喷发动机
4.通过Modbus RS485实现远程监控
5.8个开关量输入/8个继电器输出/5个模拟量输入
6.调度功能---定时开关机
7.短信控制
8.实时时钟＆历史记录
9.零线电流检测
10.具有PLC(可编程逻辑控制)功能
11.具有累计运行A、B与累计电能A、B

HGM9600 Series
HGM9600系列

Characteristics:

1.Automatic start or mains fail self-starting function(AMF function)
2.Apply to EFI(J1939) or non-EFI engine
3.Engine and generator protection
4.USB programming interface
5.Remote control via Modbus RS485
6.8 digital inputs/8 relay outputs/5 analog inputs
7.Scheduled start/stop function
8.SMS control
9.Real-time clock & event log
10.Neutral line current detection
11.With total run A/B and total energy A/B
12.Network port communication (Ethernet)
13.Micro SD card---record permanent preservation

特点：

1.自动起动或市电异常自启动功能（AMF功能）
2.适用于电喷（J1939）或非电喷发动机
3.发动机和发电机保护
4.USB编程接口
5.通过Modbus RS485实现远程监控
6.8个开关量输入/8个继电器输出/5个模拟量输入
7.调度功能---定时开关机
8.短信控制
9.实时时钟＆历史记录
10.零线电流检测
11.具有累计运行A、B与累计电能A、B
12.网口端口通信（ETHERNET）
13.Micro SD卡---历史记录永久保存

Characteristic---Parallel
产品特点---并联
HGM9510

Characteristics:

1.Genset parallel with genset
2.Automatic synchronization and load power share
3.Power management mode
4.Control and protection for genset and bus
5.GOV and AVR automatic adjustment
6.J1939 engine communication
7.USB programming interface
8.Remote monitoring via Modbus RS485
9.PLC(programmable logic control)
10.Uninterrupted power and cyclic starting up, it is fit to use in the field
11.Start/stop reserve set based on the data of automatic load detection
12.Controlling 32 gensets in parallel automatically in 1 minute
13.Single genset parallel in grid---genset is constant power output

特点：

1.机组与机组并联
2.自动同步与负载功率均分
3.可设置功率管理模式
4.发电机组和母排控制保护
5.GOV和AVR自动调节
6.J1939发动机通讯
7.USB编程接口
8.通过Modbus RS485实现远程监控
9.可逻辑编程（PLC）
10.不断电循环开机，适合野外作业
11.自动检测负载大小来开启和关闭备用机组
12.可控制32台机组1分钟全部自动并联
13.单机并网模式---发电机组恒功率输出

高压机组解决方案
HIGH VOLTAGE UNIT SOLUTION

Characteristic---Parallel
产品特点---并联

HGM9520

Characteristics:

1.Single genset parallel with mains
2.Automatic synchronization and load power share
3.Control and protection for genset and mains
4.GOV and AVR automatic adjustment
5.J1939 engine communication
6.USB programming interface
7.Remote control via Modbus RS485
8.PLC(programmable logic control)
9.Genset constant power output
10.Mains controlling Mode
11.Load takeover Mode
12.AMF controlling Mode
13.Islanding Mode

特点：

1.单台机组与市电并联
2.自动同步与负载功率分配
3.发电机组与市电控制保护
4.GOV和AVR自动调节
5.J1939发动机通讯
6.USB编程接口
7.通过Modbus RS485实现远程监控
8.可逻辑编程（PLC）
9.发电机组恒功率输出
10.市电控制模式选择
11.负载接收模式选择
12.AMF控制模式选择
13.孤岛模式选择

Application Cases
应用案例

HGM7110A

10500V, 1400KW diesel and high-voltage genset was controlled by HGM7110A
HGM7110A控制10500V的1400KW柴油高压发电机组

HGM9510

Two Volvo 660V genset were in parallel
两台沃尔沃660V发电机组并机