

Overview

纲要

SmartGen always devotes itself to research and develop the control of ship power, has developed an advanced power management (PMS) system, engine monitor and extension module, which provide a strong guarantee for the safe navigation of the ship.

SmartGen多年来一直致力于船舶动力控制的研究与开发，先后开发出了先进的功率管理（PMS）系统，发动机监控仪及扩展模块，为船舶的安全航行提供了强有力的保障。

SmartGen Ship Power Control System:

1. Diesel engine control and protection
2. Power management (PMS)
3. Extension modules
4. Sensor
5. Local control panel

SmartGen船舶动力控制系统：

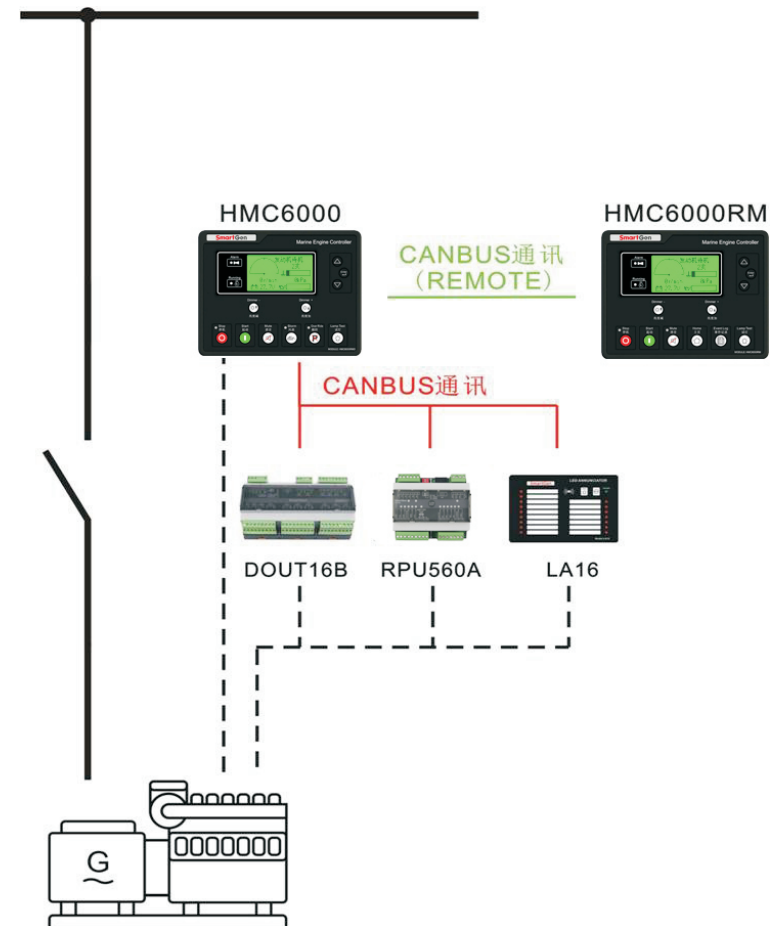
1. 柴油发动机控制保护；
2. 功率管理（PMS）；
3. 扩展模块系列；
4. 传感器；
5. 机旁控制屏；

Application---Ship Power Control

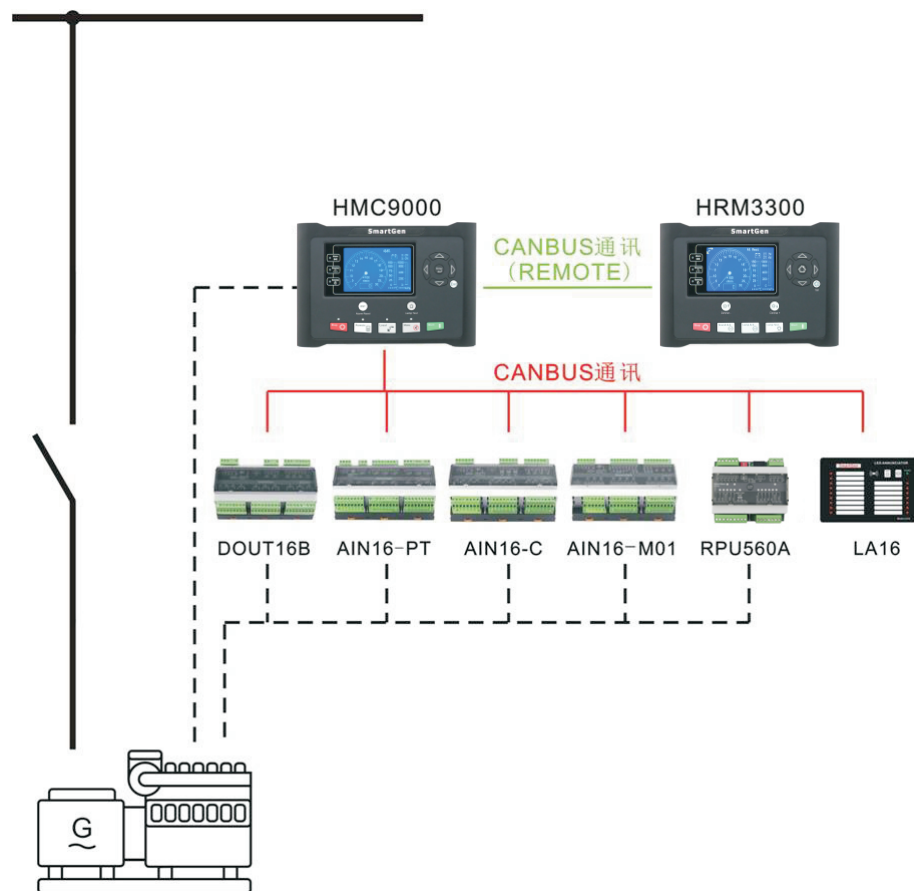
应用方案---船舶动力控制

Master control module HMC6000

主控模块 HMC6000

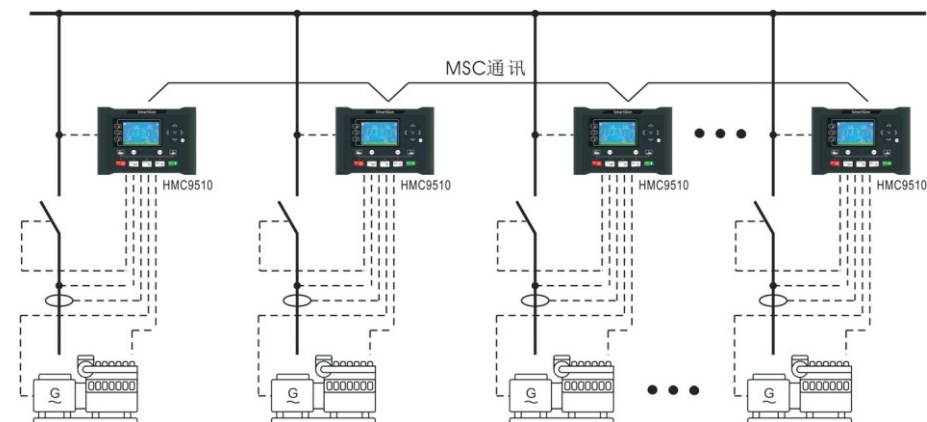


Master control module HMC9000
主控模块 HMC9000

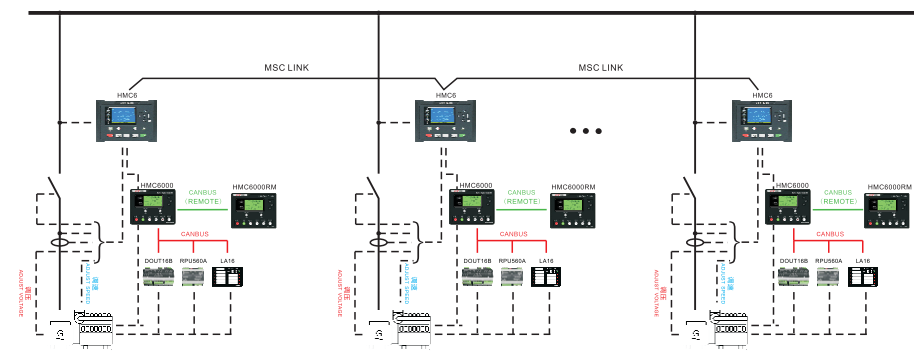


Application---Parallel
应用方案---并联

Parallel module---HMC9510
并联模块 HMC9510

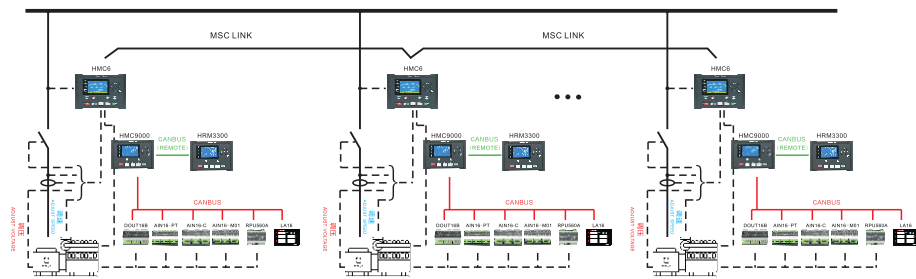


Power Management Module HMC6 +
Master Control Module HMC6000
功率管理模块 HMC6 + 主控模块 HMC6000



Power Management Module HMC6 + Master Control Module HMC9000

功率管理模块HMC6 + 主控模块HMC9000

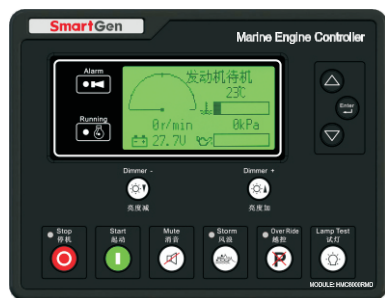


Characteristic---Engine Control

产品特点---发动机控制

Master Control Module HMC6000

主控模块HMC6000



特点:

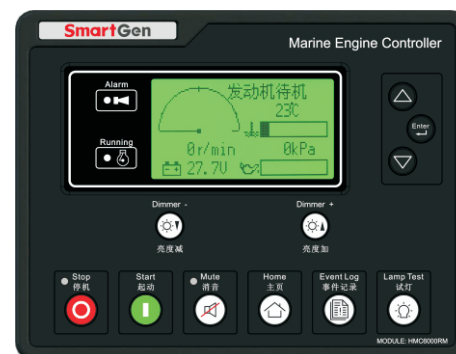
1. 船舶发动机控制与保护
2. CCS认证
3. 具有越控模式
4. 实时时钟 & 历史记录
5. RS485通讯接口
6. 8个继电器输出/9个晶体管输出/11个开关量输入/6个模拟量输入
7. 可与DOUT16A / RPU560A / LA16扩展模块连接
8. 广泛应用于船用应急、主推、主发动机

Characteristics:

1. Ship engine control and protection
2. CCS certification
3. Override function
4. Real-time clock & event log
5. RS485 communication interface
6. 8 relay outputs/9 transistor outputs/11 digital inputs/6 analog inputs
7. Can connect with DOUT16A / PU560A / LA16 extended module
8. Widely used in marine emergency engine, main propulsion engine and main engine

Remote Transmission Module HMC6000RM

远传模块HMC6000RM



Characteristics:

1. Remote monitoring of marine engine
2. CCS certification
3. Can connect with HMC6000

特点:

1. 船用发动机的远程监控
2. CCS认证
3. 可与HMC6000连接

Remote Transmission Module HRM3300

远传模块HRM3300



Characteristics:

1. Remote monitoring
2. CCS certification
3. Apply to HMC9000 series

特点:

1. 远程监控
2. CCS认证
3. 适用于HMC9000系列

Mater Control Module---HMC9000 主控模块HMC9000



Characteristics:

- 1.Engine control and protection
- 2.CCS certification
- 3.J1939 interface
- 4.REMOTE(CANBUS) interface
- 5.Module extension function
- 6.Connect with 16 HRM3300 (remote monitoring module)
- 7.USB programming interface
- 8.RS485 communication interface
- 9.Override function
- 10.18 digital inputs
- 11.8 relay outputs/8 transistor inputs
- 12.8 analog inputs(4 4-20mA and 4 resistive sensors)
- 13.Double-cell monitoring and switching function
- 14.GOV speed adjustment function
- 15.Thread break detection function
- 16.Widely used in marine emergency engine, main propulsion engine and main engine
- 17.PLC(programmable logic control)

特点:

- 1.发动机的控制与保护
- 2.CCS认证
- 3.具有J1939接口
- 4.具有REMOTE(CANBUS)远程监控接口
- 5.具有模块扩展功能
- 6.可挂接16个HRM3300 (远程监控模块)
- 7.USB编程接口
- 8.RS485通信接口
- 9.具有越控模式
- 10.18个开关量输入
- 11.8个继电器输出/8个晶体管输入
- 12.8个模拟量输入 (4路4-20mA和4路电阻型传感)
- 13.具备双电池监测及切换功能
- 14.具有GOV调速功能
- 15.具备断线检测功能
- 16.应用于船用应急、主推、主发
- 17.可逻辑编程 (PLC)

Characteristics---Parallel 产品特点---并联

Parallel Module---HMC9510 并联模块---HMC9510



Characteristics:

- 1.Genset parallel with genset
- 2.CCS certification
- 3.Automatic synchronization and load power share
- 4.control and protection for genset and bus
- 5.GOV and AVR adjustment
- 6.J1939 engine communication
- 7.USB programming interface
- 8.Remote monitoring via Modbus RS485
- 9.PLC(programmable logic control)
- 10.Controlling 32 gensets in parallel automatically in 1 minute

特点:

- 1.机组与机组并联
- 2.CCS认证
- 3.自动同步与负载功率均分
- 4.发电机组和母排控制保护
- 5.GOV和AVR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.可控制32台机组1分钟全部自动并联

Power Management Module---HMC6

功率管理模块---HMC6



特点:

- 1.Power management
- 2.CCS certification
- 3Automatic synchronization and load distribution
- 4.Remote start/stop function
- 5.Multipath heavy load request function
- 6.Multipath unimportant load release function
- 7.USB programming interface
- 8.RS485 communication interface
- 9.CANBUS communication interface
- 10.GOV automatic speed adjustment function
- 11.AVR automatic voltage adjustment function
- 12.Module extension function
- 13.Event log function
- 14.PLC(programmable logic control)

Characteristics:

- 1.功率管理
- 2.CCS认证
- 3.自动同步和负荷分配
- 4.具有遥控开停机功能
- 5.具有多路重载问询功能
- 6.具有多路非重要负载脱扣功能
- 7.USB编程接口
- 8.RS485通讯接口
- 9.CANBUS通讯接口
- 10.具有GOV自动调速功能
- 11.具有AVR自动调压功能
- 12.具有模块扩展功能
- 13.具有历史记录功能
- 14.可逻辑编程 (PLC)

Characteristics---Extension Module

产品特点---扩展模块

Security protection module---RPU560A

安保模块---RPU560A



Characteristics:

- 1.Two working mode selected (security protection main mode and standby mode)
- 2.Double-cell monitoring and switching function
- 3.4 digital fault shutdown inputs
- 4.5 relay outputs
- 5.Emergency stop input port
- 6.Override mode input
- 7.1 speed sensor
- 8.Π-type 35mm guide-rail installation
- 9.Can connect with HMC9000 and HMC6000
- 10.Widely used in marine main propulsion engine, main engine and emergency engine or pump unit

特点:

- 1.两种工作模式可选 (安保主用模式和备用模式)
- 2.具备双电池监测及切换功能
- 3.4路开关量故障停机输入
- 4.具备5路继电器输出
- 5.具有紧急停机输入端口
- 6.具有越控模式输入
- 7.一路转速传感器
- 8.35mmπ型导轨安装
- 9.可与HMC9000和HMC6000连接
- 10.适用于船用主推、主发、应急机组或水泵机组

Digital Output Extension Module---DOUT16B

开关量输出扩展模块---DOUT16B



Characteristics:

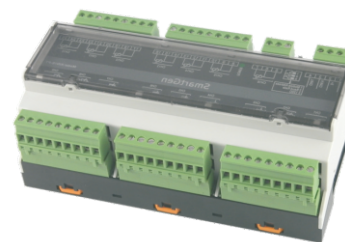
1. 16 volts free relay outputs
2. CCS certification
3. Π -type 35mm guide-rail installation
4. Can connect with HMC9000 and HMC6000

特点:

1. 16路无源继电器输出
2. CCS认证
3. 35mm π 型导轨安装
4. 可与HMC9000和HMC6000连接

PT100 Analog Input Module---AIN16-PT

PT100模拟量输入模块---AIN16-PT



Characteristics:

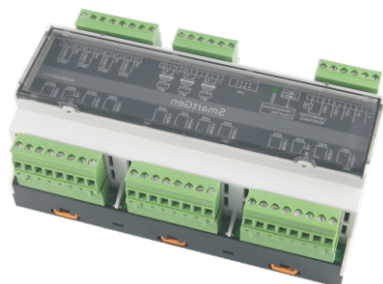
1. 16 PT100 analog inputs
2. CCS certification
3. Π -type 35mm guide-rail installation
4. Can connect with HMC9000

特点:

1. 16路PT100模拟量输入
2. CCS认证
3. 35mm π 型导轨安装
4. 可与HMC9000连接

4-20mA Analog Input---AIN16-C

4-20mA模拟量输入---AIN16-C



Characteristics:

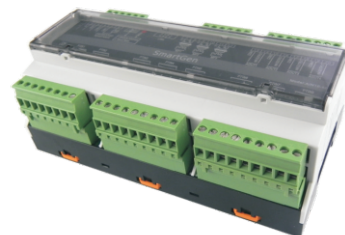
1. 16 4-20mA and 3 speed sample inputs
2. CCS certification
3. Π -type 35mm guide-rail installation
4. Can connect with HMC9000

特点:

1. 16路4-20mA和3路转速采样输入
2. CCS认证
3. 35mm π 型导轨安装
4. 可与HMC9000连接

Synthesis Analog Module---AIN16-M01

模拟量综合模块---AIN16-M01



Characteristics:

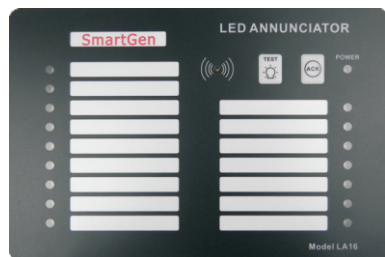
1. Synthesis analog input/output extension module
2. 3 speed inputs/1 4-20mA input/8 PT100 inputs
3. 4 4-20mA outputs
4. CCS certification
5. Π -type 35mm guide-rail installation
6. Can connect with HMC9000

特点:

1. 综合模拟量输入/输出扩展模块
2. 3路转速输入/1路4-20mA输入/8路PT100输入
3. 4路4-20mA输出
4. CCS认证
5. 35mm π 型导轨安装
6. 可与HMC9000连接

LED Extension Module---LA16

LED灯扩展模块---LA16



Characteristics:

1. 16 LED displays
2. CCS certification
3. LINK communication interface
4. Can connect with HMC9000 and HMC6000

特点:

1. 16路LED灯显示
2. CCS认证
3. 具有LINK通讯接口
4. 可与HMC9000和HMC6000连接

Characteristics---Marine Fittings

产品特点---船用配件

Pressure Transmitter---SGPT110

压力变送器---SGPT110



Characteristics:

1. Pressure transmitter
2. Range of pressure test: (0~1)MPa
3. Standard two-wire system output: 4~20mA
4. G 1/4 standard pipe thread
5. Measurement accuracy---level 0.25
6. Level of protection---IP65
7. CCS certification

特点:

1. 压力变送器
2. 测压范围: (0~1)MPa
3. 两线制标准输出: 4~20mA
4. G 1/4标准管螺纹
5. 测量精度---0.25级
6. 防护等级---IP65
7. CCS认证

Resistance Temperature Sensor---SGWS115

电阻性温度传感器---SGWS115



Characteristics:

1. PT100 type temperature sensor
2. Three-wire system resistance output
3. G 1/2 standard pipe thread
4. Measurement accuracy---level 0.25
5. Level of protection---IP65
6. CCS certification

特点:

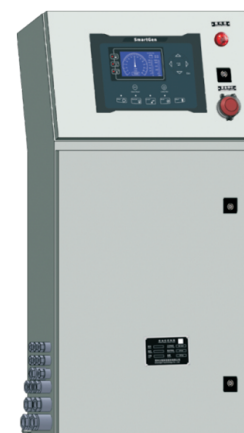
1. PT100型温度传感器
2. 三线制电阻输出
3. G 1/2标准管螺纹
4. 测量精度---0.25级
5. 防护等级---IP65
6. CCS认证

Characteristics---Control Panel

产品特点---控制屏

Vertical Cabinet---MGCP100L

立式柜---MGCP100L



Characteristics:

1. Marine control panel
2. Single diesel generator automation and monitoring
3. With remote monitoring module interface
4. Level of protection---IP44
5. CCS certification

特点:

1. 船用控制屏
2. 单台柴油机自动化控制及监控
3. 具有远程监控模块接口用于远程监控
4. 防护等级---IP44
5. CCS认证

Characteristics---Control Cabinet

产品特点---控制柜

Wall-mounted Cabinet---MGCP100B

壁挂柜---MGCP100B



Characteristics:

1. Marine control panel
2. Single diesel generator automation and monitoring
3. With remote monitoring module interface
4. Level of protection---IP44
5. CCS certification

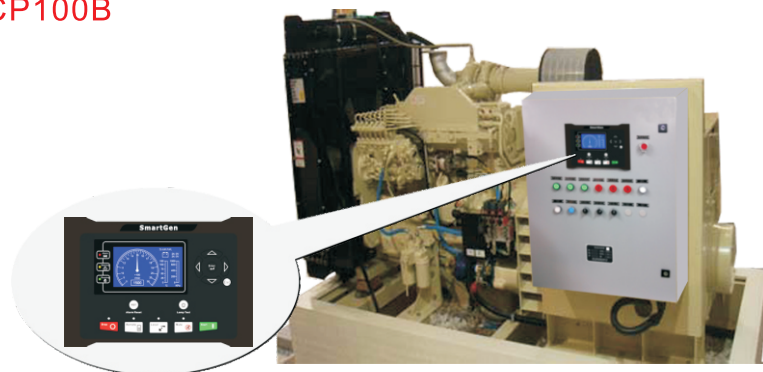
特点:

1. 船用控制屏
2. 单台柴油机自动化控制及监控
3. 具有远程监控模块接口用于远程监控
4. 防护等级---IP44
5. CCS认证

Application Cases

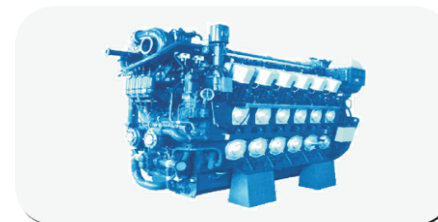
应用案例

MGCP100B



Apply to Cummins emergency genset
康明斯应急发电机组应用

MGCP100B

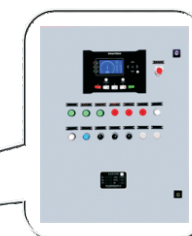
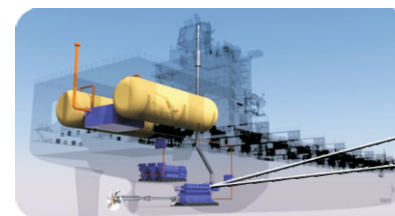


Apply to main propulsion genset in Dalian locomotive company
大连机车主推机组应用

Application---Working Sketches

应用案例---效果图

MGCP100B + HRM3300



Local Control/机旁控制箱



Console/驾控台



远传模块
Remote Transmission Module

CAN BUS
Communication

CAN BUS
通讯