



SmartGen APP
众智科技APP

SmartGen 众智

让控制更智能



SMARTGEN(ZHENGZHOU) TECHNOLOGY CO., LTD.

www.smartgen.com.cn www.smartgen.cn

SmartGen 众智

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V 1.5

MARINE PRODUCT CATALOGUE

船舶产品选型样册

MAKING CONTROL SMARTER 2023



About Us 关于我们

Founded in 1998, SmartGen (stock code: 301361) is mainly engaged in the research and development, production, sales and service of automatic control system of internal combustion gensets, low-voltage distribution automatic control system and other related automation products. In recent years, we have launched BMS, EMS and other new energy micro-grid control-related products. The company's products are widely used in military industry, mining and oil exploitation, data centers, ships, intelligent buildings, banks, hospitals, telecommunications, infrastructure, construction machinery and other fields.

We have 300+ employees and sell products all over the world. More than 30% employees are dedicated to R&D, striving for exploring new intelligent solutions to improve the overall performance of global industry equipment.

As the China's hidden champion of industry, we invest large amount funds in product's design, intelligent manufacturing and standard laboratory every year since established, to keep the leading position in international market. After years of unremitting efforts, it has obtained more than 400 patents and is also the main drafting unit of the national standard for generator set controllers.

We will continue to innovate and self-transcend as always, dedicating to meet our partners' demands on product diversification and high quality.

Enterprise mission: making control smarter!

Enterprise spirit: continuous improvement, teamwork creates value.

众智科技（股票代码：301361）始建于1998年，主要从事内燃发电机组自动控制系统、低压配电自动控制系统等相关自动化产品的研发、生产、销售和服务；近年来陆续推出BMS、EMS等新能源微电网控制相关产品。公司产品广泛应用于军工、矿山石油开采、数据中心、船舶、智能大厦、银行、医院、电信、基建、工程机械等领域。

我们拥有300多名员工，业务范围遍布全球，有超过30%的员工致力于研发工作，负责探索全新的智能化方案来提升全球行业设备的整体性能。

作为中国的行业隐形冠军，自成立以来，每年都会在产品研发、智能制造和标准实验室方面投入大量资金，以保持公司在国际市场中的领先地位。数年来不懈努力，累计取得专利400多项，也是发电机组控制器国家标准的主要起草单位。

我们将一如既往地不断创新与自我超越，为满足合作伙伴对产品多样化和高品质的追求而持续奋斗。

企业使命：让控制更智能！

企业精神：自强不息，众智成城。



SmartGen Testing Room 众智实验室



SmartGen Testing Room / 众智实验室



Prototype Testing Room / 发电机组真机试验室



Hybrid Energy Control Test System
混合能源控制试验系统

SmartGen Testing Room was established in 2010, covering an area of nearly 1,000 square metres. With gradual improvements for years, it has become one of the handful of top-ranking testing bases in the industry.

We have successively purchased sets of advanced test equipment from domestic and foreign well-known enterprises for the testing room.

Test types mainly include EMC tests, environmental tests, prototype tests, failure analysis test, product safety testing, etc.

众智实验室筹建于2010年，占地面积近千平方米。历时多年的逐渐完善，目前已经成为了行业内屈指可数的一流试验基地。

众智实验室先后从国内外知名企业采购多套高精尖的测试设备，以确保各种产品符合最高品质标准。

主要测试类型包括：EMC电磁兼容性测试、环境类测试、真机类测试、失效分析类测试、产品安全测试等。

Enterprise Honor 企业荣誉



ISO 9001
质量管理体系认证



ISO 14001
环境管理体系认证



ISO 45001
职业健康安全管理体系认证



CCS Certificate
中国船级社认证



Certificate of
Invention Patent
发明专利证书



BV Certificate
BV证书



CE Certificate
CE证书



CCC Certificate
CCC证书



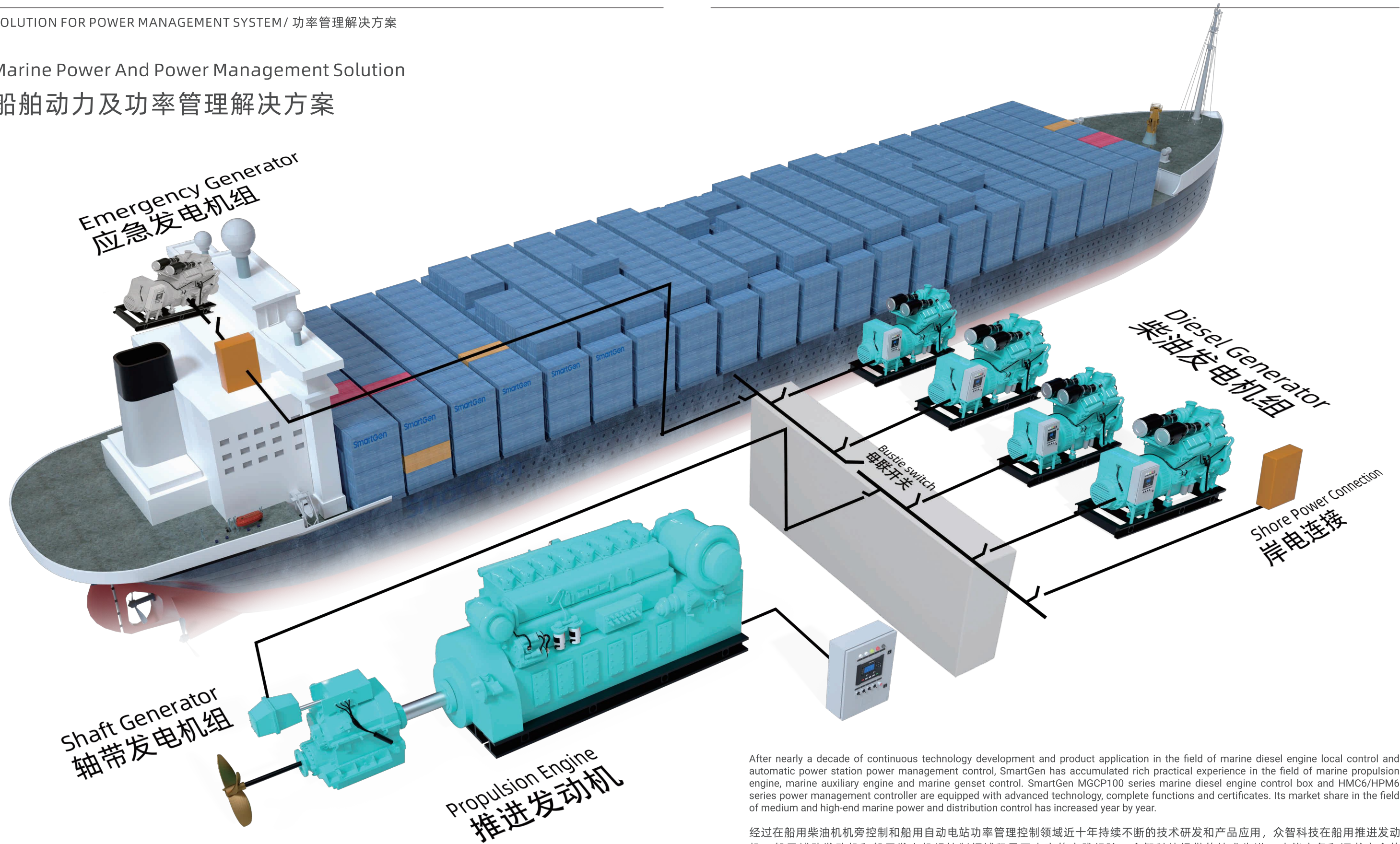
Software Copyright
软件著作权登记证书



UL Certificate
UL证书

Marine Power And Power Management Solution

船舶动力及功率管理解决方案



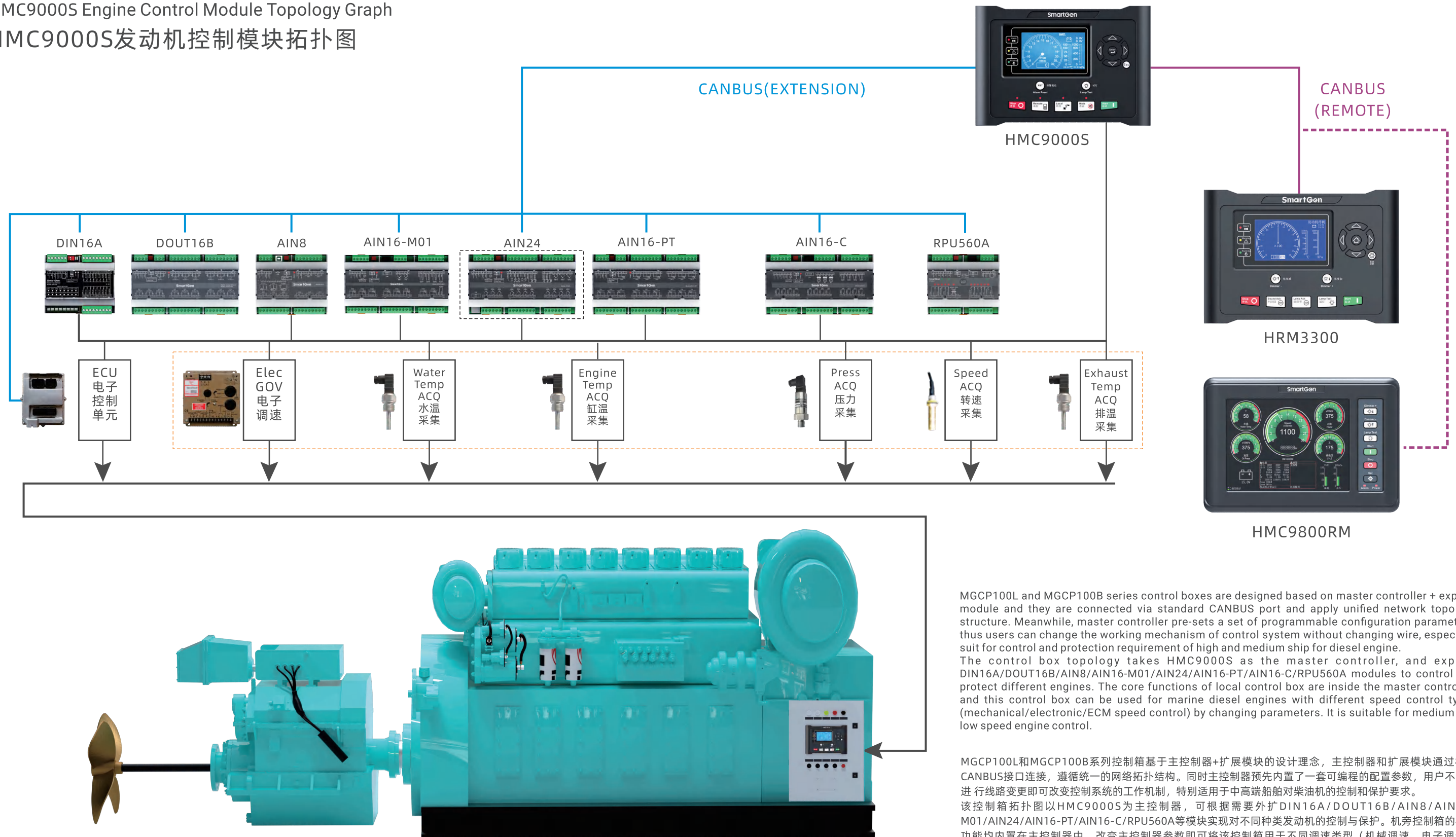
After nearly a decade of continuous technology development and product application in the field of marine diesel engine local control and automatic power station power management control, SmartGen has accumulated rich practical experience in the field of marine propulsion engine, marine auxiliary engine and marine genset control. SmartGen MGCP100 series marine diesel engine control box and HMC6/HPM6 series power management controller are equipped with advanced technology, complete functions and certificates. Its market share in the field of medium and high-end marine power and distribution control has increased year by year.

经过在船用柴油机机旁控制和船用自动电站功率管理控制领域近十年持续不断的技术研发和产品应用，众智科技在船用推进发动机、船用辅助发动机和船用发电机组控制领域积累了丰富的实践经验。众智科技提供的技术先进、功能完备和证书齐全的MGCP100系列船用柴油机控制箱和HMC6/HPM6系列功率管理控制器在中高端船用动力及配电控制领域的市场占有率逐年提升。

MARINE DIESEL CONTROLLER/ 船用机旁控制器

HMC9000S Engine Control Module Topology Graph

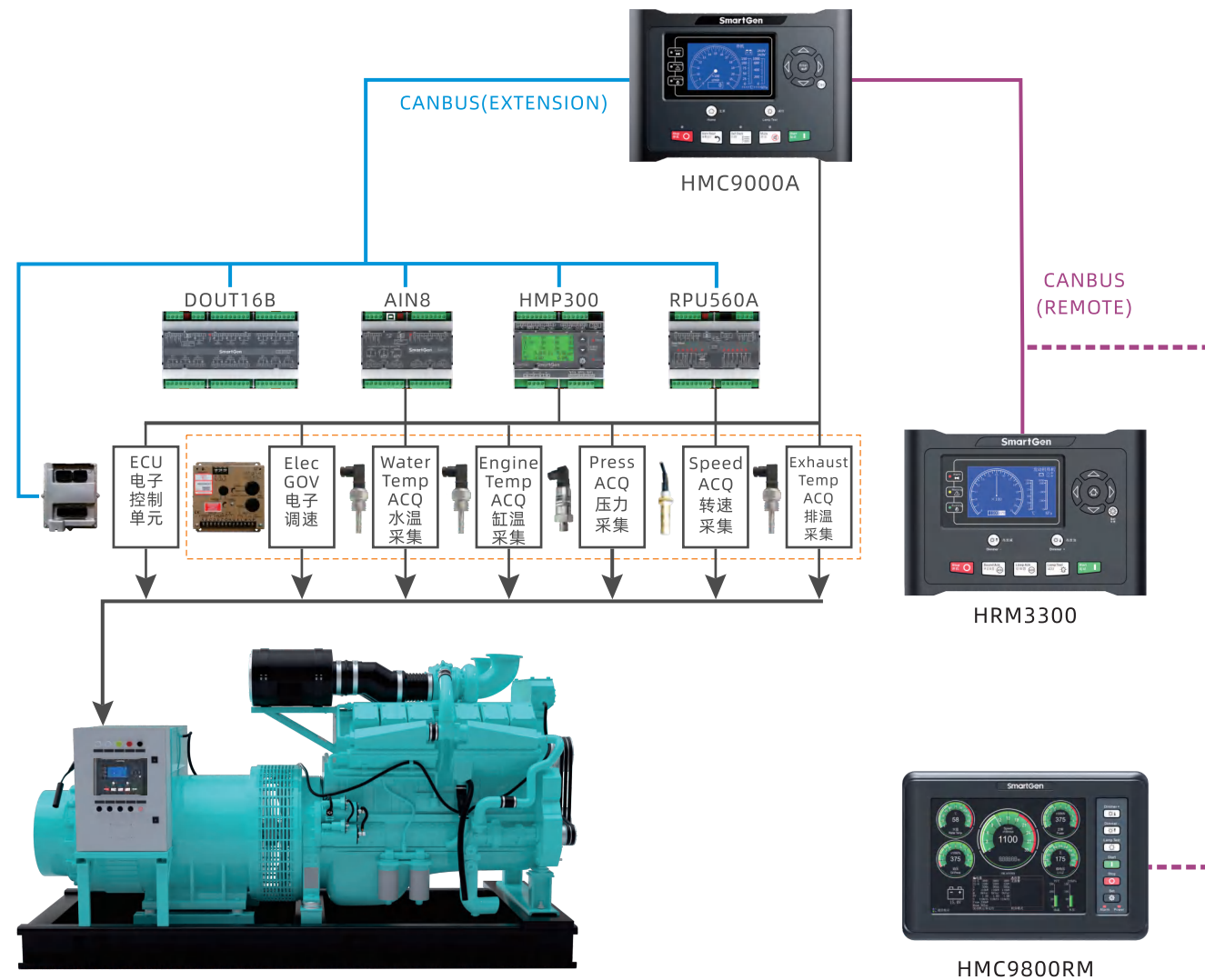
HMC9000S发动机控制模块拓扑图



MGCP100L and MGCP100B series control boxes are designed based on master controller + expand module and they are connected via standard CANBUS port and apply unified network topology structure. Meanwhile, master controller pre-sets a set of programmable configuration parameters, thus users can change the working mechanism of control system without changing wire, especially suit for control and protection requirement of high and medium ship for diesel engine. The control box topology takes HMC9000S as the master controller, and expand DIN16A/DOUT16B/AIN8/AIN16-M01/AIN24/AIN16-PT/AIN16-C/RPU560A modules to control and protect different engines. The core functions of local control box are inside the master controller, and this control box can be used for marine diesel engines with different speed control types (mechanical/electronic/ECM speed control) by changing parameters. It is suitable for medium and low speed engine control.

MGCP100L和MGCP100B系列控制箱基于主控制器+扩展模块的设计理念，主控制器和扩展模块通过标准CANBUS接口连接，遵循统一的网络拓扑结构。同时主控制器预先内置了一套可编程的配置参数，用户不需要进行线路变更即可改变控制系统的工作机制，特别适用于中高端船舶对柴油机的控制和保护要求。该控制箱拓扑图以HMC9000S为主控制器，可根据需要外扩DIN16A/DOUT16B/AIN8/AIN16-M01/AIN24/AIN16-PT/AIN16-C/RPU560A等模块实现对不同种类发动机的控制与保护。机旁控制箱的核心功能均内置在主控制器中，改变主控制器参数即可将该控制箱用于不同调速类型（机械调速、电子调速和ECM控制）的船用柴油机。特别适用于中速机和低速机控制。

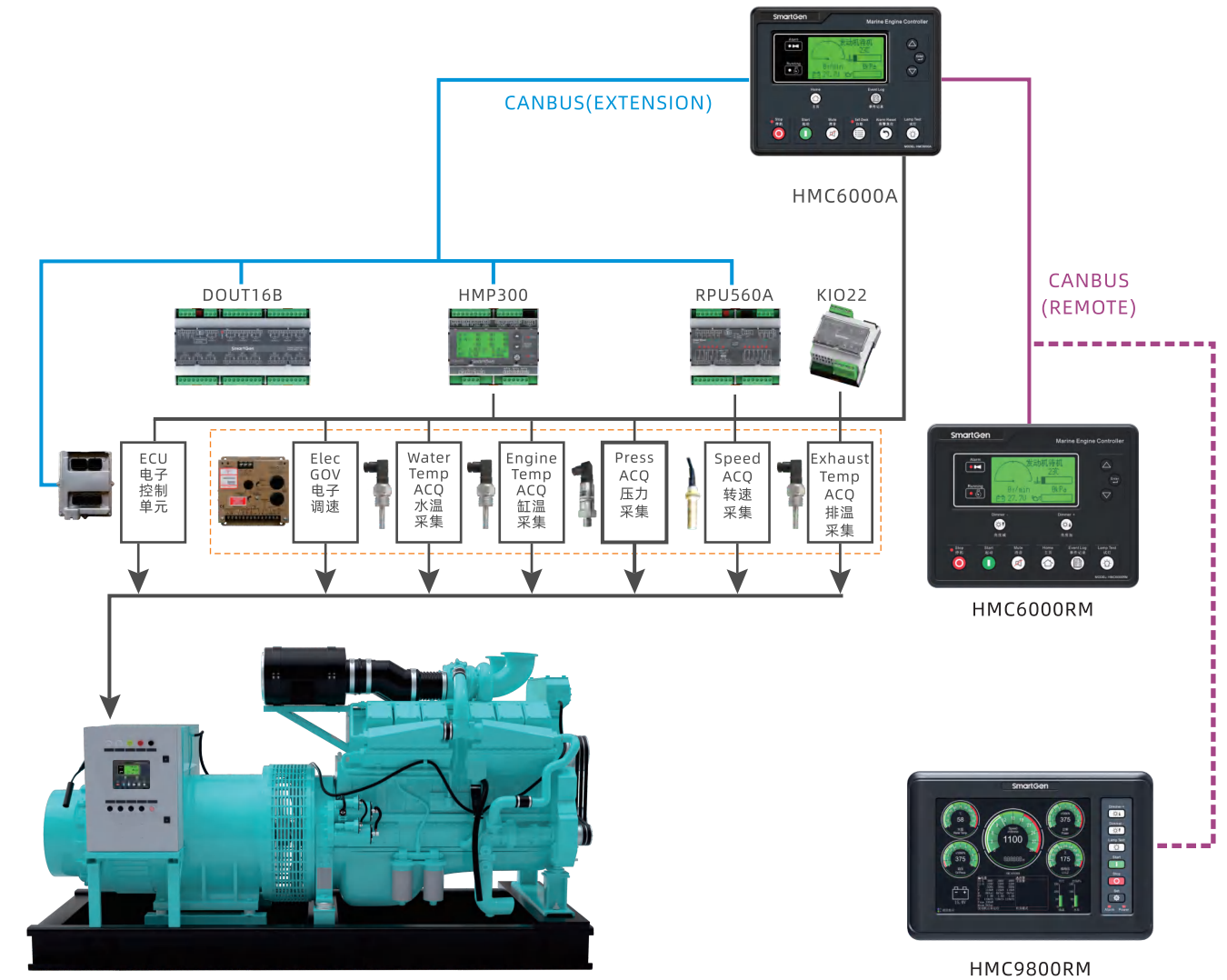
HMC9000A Engine Control Module Topology Graph HMC9000A发动机控制模块拓扑图



The control box topology takes HMC9000A as the master controller, and expand DOUT16B/AIN8/HMP300/RPU560A modules to control and protect different engines. The core functions of local control box are inside the master controller, and this control box can be used for marine diesel engines with different speed control types (mechanical/electronic/ECM speed control) by changing parameters. It is suitable for high and medium speed engine control. It is widely used for large and medium diesel engine.

该控制箱拓扑图以HMC9000A为主控制器，可根据需要外扩DOUT16B/AIN8/HMP300/RPU560A等模块实现对不同种类发动机的控制与保护。机旁控制箱的核心功能均内置在主控制器中，改变主控制器参数即可将该控制箱用于不同调速类型（机械调速、电子调速 和ECM控制）的船用柴油机。特别适用于高速机和中速机控制。广泛应用于中大型柴油机。

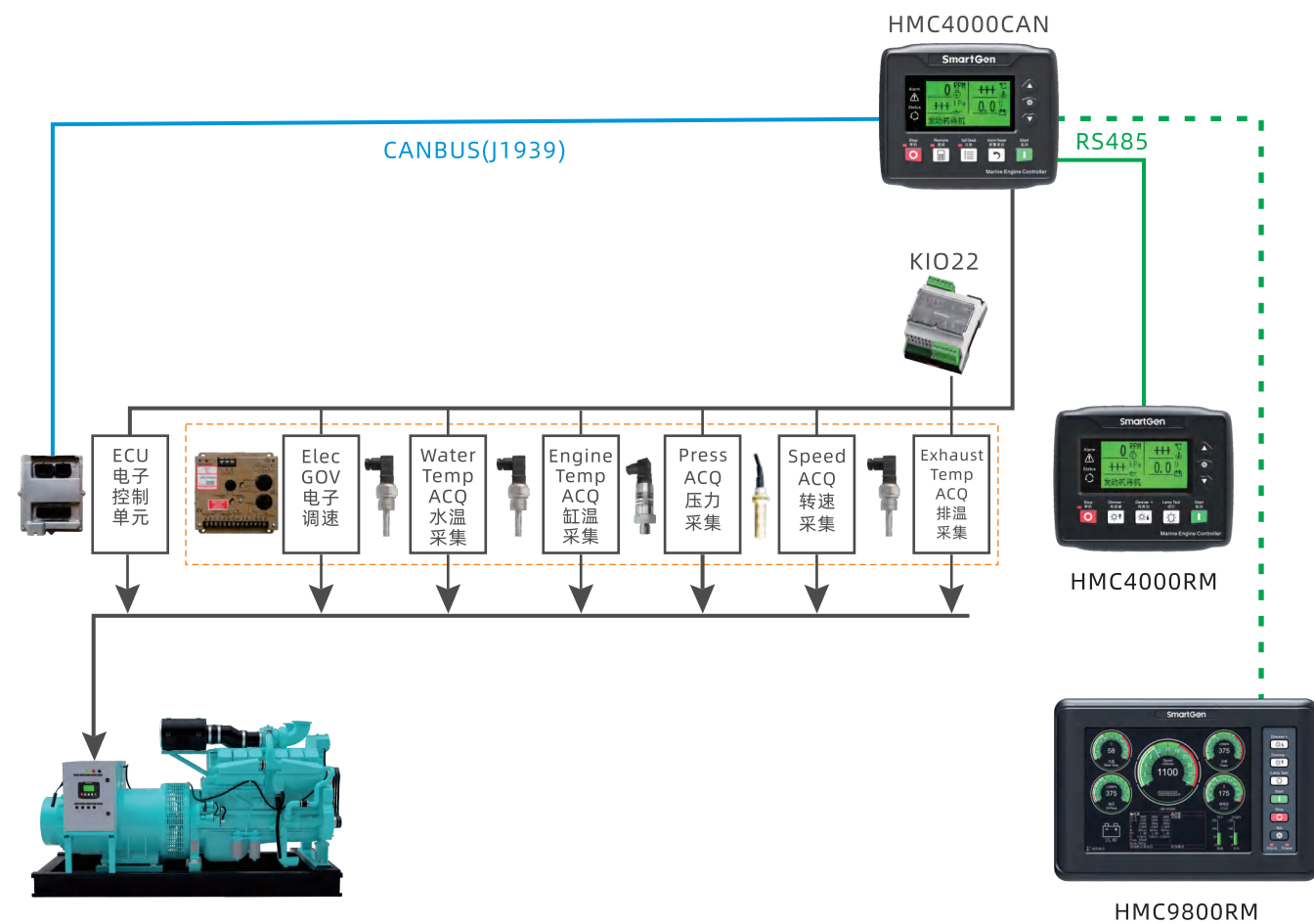
HMC6000A Engine Control Module Topology Graph HMC6000A发动机控制模块拓扑图



The control box topology takes HMC6000A as the master controller, and extension DOUT16B/HMP300/RPU560A modules to control and protect different engines. The core functions of local control box are inside the master controller, and this control box can be used for marine diesel engines with different speed control types (mechanical/electronic/ECM speed control) by changing parameters. It is suitable for medium and small engines with high speed. It is widely used for large and medium diesel engine.

该控制箱拓扑图以HMC6000A为主控制器，可根据需要外扩DOUT16B/HMP300/RPU560A等模块实现对不同种类发动机的控制与保护。机旁控制箱的核心功能均内置在主控制器中，改变主控制器参数即可将该控制箱用于不同调速类型（机械调速、电子调速 和ECM控制）的船用柴油机。特别适用于中小型高速机控制。广泛应用于中大型柴油机。

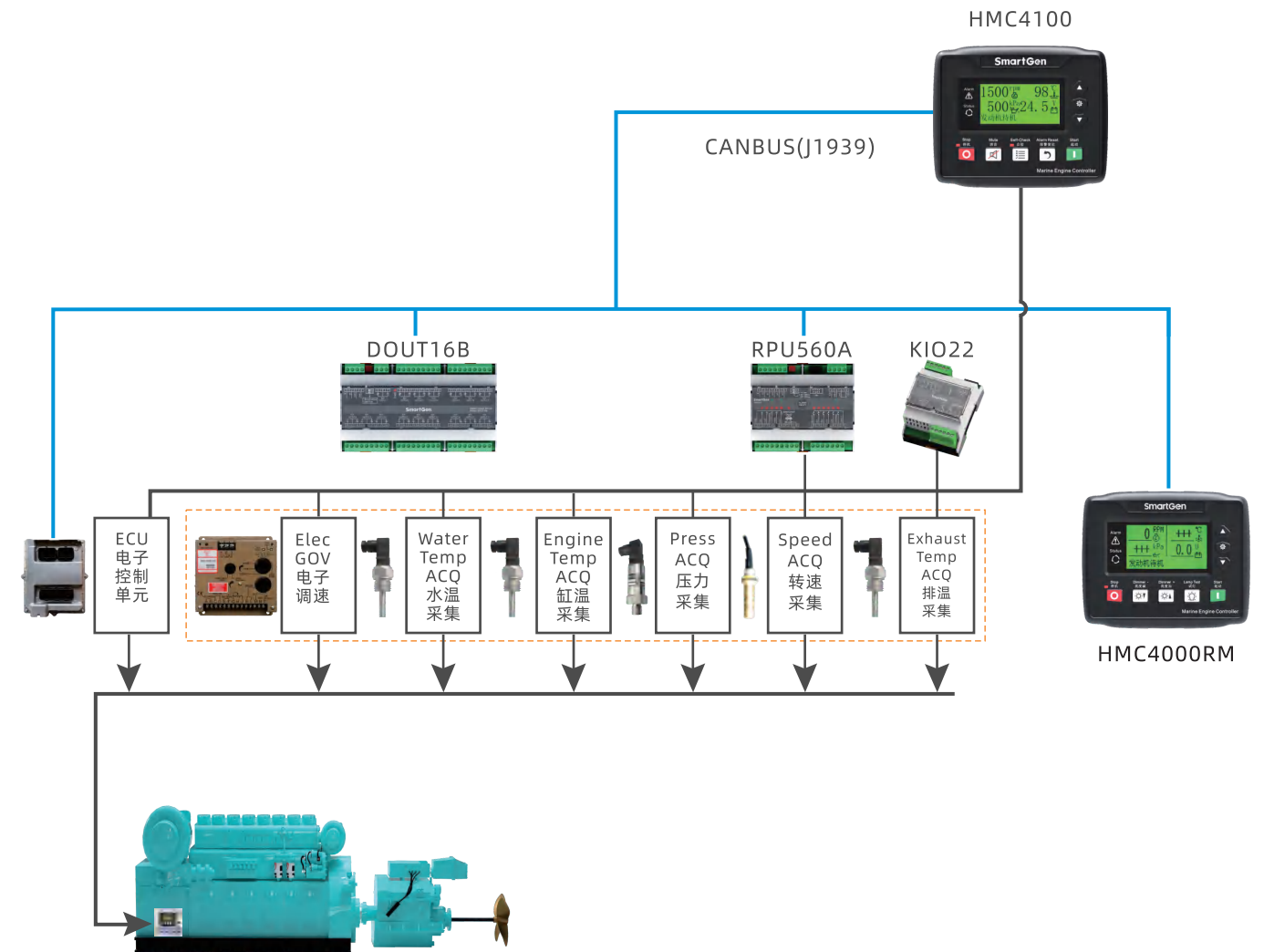
HMC4000 Engine Control Module Topology Graph HMC4000发动机控制模块拓扑图



The control box topology takes HMC4000 as the master controller with electricity monitoring function. It can flexibly select controller models according to controlled engine speed control type (mechanical/electronic speed control for HMC4000MPU, ECM speed control for HMC4000CAN). The core functions of local control box are inside the master controller, and it is suitable for small diesel genset control.

该控制箱拓扑图以HMC4000为主控制器，具备电量监测功能，根据被控发动机的调速类型灵活选择控制器型号（机械调速、电子调速采用HMC4000MPU，ECM调速采用HMC4000CAN）。机旁控制箱的核心功能均内置在主控制器中，特别适用于小型柴油发电机组控制。

HMC4100 Engine Control Module Topology Graph HMC4100发动机控制模块拓扑图



The control box topology takes HMC4100 as the master controller, and extension DOUT16B/RPU560A modules to control and protect different engines. The core functions of local control box are inside the master controller, and this control box can be used for marine diesel engines with different speed control types (mechanical/electronic/ECM speed control) by changing parameters. It is especially suitable for small high-speed unit control. It is widely used for medium and large diesel engine.

该控制箱拓扑图以HMC4100为主控制器，可根据需要外扩DOUT16B/RPU560A等模块实现对不同种类发动机的控制与保护。机旁控制箱的核心功能均内置在主控制器中，改变主控制器参数即可将该控制箱用于不同调速类型（机械调速、电子调速和ECM控制）的船用柴油机。特别适用于小型高速机控制。广泛应用于中大型柴油机。



HMC9000A
Diesel Engine Controller
柴油发动机控制器



HMC9000S
Diesel Engine Controller
柴油发动机控制器



HRM3300
Remote Control Module
远程监控模块

Model/型号	HMC9000A	HMC9000S	HRM3300
Display/显示器	4.3 inches TFT-LCD(480*272) 4.3吋彩屏		
Operation Panel/操作面板	Silicon Rubber/硅胶		
Language/控制器语言	Chinese & English/中文 & 英文		
Digital Input/开关量输入	18		
K-type Thermocouple Input K型热电偶输入	2		
Relay Output/继电器输出	8		
Transistor Output/晶体管输出	8		
Current Sensor 电流型传感器个数	4		
Resistance Sensor 电阻型传感器个数	4		
HRM3300 Controller Extension HRM3300控制器扩展	●		
RPU560A Module Extension RPU560A模块扩展	●		
AIN24 Module Extension AIN24模块扩展		●	
AIN16-PT Module Extension AIN16-PT模块扩展		●	
AIN16-C Module Extension AIN16-C模块扩展		●	
AIN16-MO1 Module Extension AIN16-MO1 模块扩展		●	
DIN16A Module Extension DIN16A模块扩展		●	
DOUT16B Module Extension DOUT16B模块扩展		●	
AIN8 Module Extension AIN8模块扩展	●		
HMP300 Module Extension HMP300模块扩展	●		
COM.Interface/通讯接口	RS485/USB		
CANBUS Port Extension 扩展CANBUS接口	●		
Remote CANBUS Port 远程CANBUS接口		●	
DC Supply/直流工作电源范围	DC(18~35)V		
Case Dimensions/外形尺寸(mm)	266*182*45(L*W*H)		
Panel Cutout/安装尺寸(mm)	214*160		
Operating Temp./工作温度	(-25~+70)°C		



HMC6000A
Marine Engine Controller
船用发动机控制器



HMC6000RM
Remote Monitoring Controller
远程监控控制器

Model/型号	HMC6000A	HMC6000RM
Display/显示器	LCD(132*64)	
Language/控制器语言	Chinese & English/中文 & 英文	
Operation Panel/操作面板	Silicon Rubber/硅胶	
HMC9800RM Remote Monitoring Expansion HMC9800RM远程监控扩展	●	
DOUT16B Module Extension DOUT16B模块扩展	●	
RPU560A Module Extension RPU560A模块扩展	●	
HMC6000RM Controller Extension HMC6000RM控制器扩展	●	
COM.Interface/通讯接口	RS485/LINK	LINK
CANBUS (J1939) Port CANBUS (J1939) 接口	●	
CANBUS Port Extension /Remote CANBUS Port 扩展CANBUS接口/远程CANBUS接口	(Share One Port/共用一个接口)	
Relay Output/继电器输出	8	
Transistor Output/晶体管输出	9	
Digital Input/开关量输入	11	
Analogue Input/模拟量输入	2(Resistance-type)+4(Resistance-type/ Current-type/Voltage-type)Multiplexed 2(电阻型) + 4(电阻型/电流型/电压型) 复用	
DC Supply/直流工作电源范围	DC(8~35)V	
Case Dimensions/外形尺寸(mm)	197*152*47(L*W*H)	
Panel Cutout/安装尺寸(mm)	186*141	
Operating Temp./工作温度	(-25~+70)°C	



HMC4000RM
Remote Monitoring Controller
远程监控控制器



HMC4000CAN
Marine Engine Controller
船用发动机控制器



HMC4000MPU
Marine Engine Controller
船用发动机控制器



HMC4100
Marine Engine Controller
船用发动机控制器

Model/型号	HMC4000RM	HMC4000CAN	HMC4000MPU	HMC4100
Display/显示器	LCD(132*64)			
Language/控制器语言	Chinese & English/中文 & 英文			
Operation Panel/操作面板	Silicon Rubber/硅胶			
Power Acquisition and Display 电量采集及显示	Configurable / 可配置			
HMC4000RM Controller Extension HMC4000RM控制器扩展			●	
RPU560A Module Extension RPU560A模块扩展				●
DOUT16B Module Extension DOUT16B模块扩展				●
COM.Interface/通讯接口 RS485接口		●		
CANBUS Port CANBUS接口	●			●
Relay Output/继电器输出口		6		7
Digital Input/开关量输入		3+2(Digital/Analogue Multiplexed/开关量/模拟量复用)		6
Analogue Input/模拟量输入		2+2(Digital/Analogue Multiplexed/开关量/模拟量复用)		6
Operating Temp./工作温度	(-25~+70)°C			
DC Supply/直流工作电源范围	DC(8 ~ 35)V			
Panel Cutout/安装尺寸(mm)	116*90			
Case Dimensions/外形尺寸(mm)	135*110*44(L*W*H)			



SGPT110/SGPT110-0.4
Pressure Transmitter
压力变送器

- ▶ Measuring Range/测量范围:
(0~1)MPa/(0~0.4)MPa
- ▶ Signal Output/信号输出:
(4~20)mA
- ▶ Screw Thread:
G1/4 Standard Pipe Thread
螺纹: G1/4标准管螺纹
- ▶ Measurement Accuracy: Class 0.25
测量精度: 0.25级
- ▶ Protection Class/防护等级: IP65



SGWS115
Temperature Sensor
温度传感器

- ▶ Measuring Range/测温范围:
(-20~+150)°C
- ▶ Output Mode:
Three-wire System Resistance Output
输出方式: 三线制电阻输出
- ▶ Screw Thread:
G1/2 Standard Pipe Thread
螺纹: G1/2标准管螺纹
- ▶ Measurement Accuracy: Class 0.25
测量精度: 0.25级
- ▶ Protection Class/防护等级: IP65



HMC9800RM
Remote Monitoring Module
远程监控模块

Model/型号	HMC9800RM
Display/显示器	8 inches Color Touchscreen 8吋触控彩屏 (800*600)
Language/控制器语言	Chinese & English/中文 & 英文
Operation Panel/操作面板	Silicon Rubber/硅胶
Power Acquisition and Display 电量采集及显示	Configurable/可配置
HMC9000A Remote Monitoring Expansion HMC9000A远程监控扩展	●
HMC9000S Remote Monitoring Expansion HMC9000S远程监控扩展	●
HMC6000A Remote Monitoring Expansion HMC6000A远程监控扩展	●
HMC4000MPU Remote Monitoring Expansion HMC4000MPU远程监控扩展	●
COM.Interface/通讯接口	RS485
HMC4000CAN Remote Monitoring Expansion HMC4000CAN远程监控扩展	●
CANBUS Port Extension /Remote CANBUS Port 扩展CANBUS接口/远程CANBUS接口	●
DC Supply/直流工作电源范围	DC(18~35)V
Case Dimensions/外形尺寸(mm)	262*180*58(L*W*H)
Panel Cutout/安装尺寸(mm)	243*148
Operating Temp./工作温度	(-25~+70)°C



HMU8-XX
Remote Monitoring Module
远程监控模块

Model/型号	HMU8-XX
Main Functions 主要功能	Adopt 8-inch color touch screen, communicate with main controller via RS485, realize data monitoring, parameter setting and other functions for the main controller. 采用8吋彩色触屏, 可通过RS485与主控制器进行通信, 实现对主控制器的数据监控及参数设置等功能。
Display/显示器	8-inches LCD/8吋LCD
Language/控制模块语言	Chinese & English/中文 & 英文
Brightness adjustment/亮度调节	Adjustable/可调节
Operation permission/操作权限	Engineer, technician,operator/工程师、技术员、操作员
CANBUS	1路
Monitor Interface (RS485) 监控接口 (RS485)	4路
Ethernet/以太网	1路
DC Supply 直流工作电源范围	DC(10~36)V
Case Dimensions 外形尺寸(mm)	221*163*51(L*W*H)
Panel Cutout 安装尺寸(mm)	205*147
Operating Temp. 工作温度	(-25~+70)°C

RPU560A
RPU560A Redundant Protection Unit
安保模块
Genset security module
发电机安保模块
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

RPU560B
RPU560B Redundant Protection Unit
安保模块
2-way Analog Input
2路模拟量输入
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

DIN16A
DIN16A Digital Input Module
开关量输入模块
16-way digital input module
16路开关量输入模块
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

DOUT16B
DOUT16B Digital Output Module
开关量输出模块
An expansion module with 16 auxiliary digital output channels.
16路开关量输出模块
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN8
AIN8 Analog Input Module
模拟量输入模块
An expansion module with 8 analog input channels, and input types can be set PT100, (4~20)mA, (0~5)V.
8路模拟量输入模块, 输入类型均可设置PT100, (4~20)mA, (0~5)V。
CANBUS接口/CANBUS Interface




Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

AIN16-PT
AIN16-PT Analog Input Module
模拟量输入模块
An expansion module with 16 analog acquisition channels for PT100.
16路PT100模拟量采样模块
CANBUS接口/CANBUS Interface




Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN16-C
AIN16-C Analog Input Module
模拟量输入模块
An expansion module with 16 analog input channels and 16(4~20)mA+3 speed acquisition
16路(4~20)mA+3路转速采集
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN16-M01
AIN16-M01 Analog Integrated Module
模拟量综合模块
8-way PT100 input, 3 speed acquisition, 4-way (4-20)mA output, 1-way (4-20)mA input
8路PT100输入, 3路转速采集, 4路(4-20)mA输出, 1路(4-20)mA输入
CANBUS接口/CANBUS Interface




Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN16-M02
AIN16-M02 Analog Integrated Module
模拟量输入/输出模块
2-way K-type thermocouple, 8-way PT100, 2-way (4-20)mA input, 3-way (4-20)mA output
2路K型热电偶, 8路PT100, 2路(4-20)mA输入, 3路(4-20)mA输出
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN24
AIN24 Analog Input Module
模拟量输入模块
With 14-way K-type thermocouple, 5-way PT100, 5-way (4-20)mA input
具有14路K型热电偶, 5路PT100, 5路(4-20)mA输入
CANBUS接口/CANBUS Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

DIN16A-2
DIN16A-2 Digital Input Module
开关量输入模块
16-way digital input module
16路开关量输入模块
RS485接口/RS485 Interface



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

DOUT16B-2
DOUT16B-2 Digital Output Module
开关量输出模块
An expansion module with 16 auxiliary digital output channels
16路开关量输出模块
RS485接口/RS485 Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN16-C-2
AIN16-C-2 Analog Input Module
模拟量输入模块
An expansion module with 16 analog input channels and 16(4~20)mA+3 speed acquisition
16路(4~20)mA+3路转速采集
RS485接口/RS485 Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

AIN24-2
AIN24-2 Analog input Module
模拟量输入模块
With 14-way K-type thermocouple, 5-way PT100, 5-way (4-20)mA input
具有14路K型热电偶, 5路PT100, 5路(4-20)mA输入
RS485接口/RS485 Interface



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

SG72A
SG72A Communication Modules
通信接口转换模块



Case Dimensions
外观尺寸(mm):72*51*27

SG485-3
SG485-3 Interface extension module
接口扩展模块
1-way RS485 interface to 2-way RS485 interface
1路RS485接口转换为2路RS485接口



Case Dimensions
外观尺寸(mm):71.6*92.7*60.7mm

SG485-2CAN
SG485-2CAN Communication interface conversion module
通讯接口转换模块
1-way RS485 to 2-way CANBUS interface and 1-way RS485 interface
1路RS485转换为2路CANBUS接口及1路RS485接口




Case Dimensions
外观尺寸(mm):107.6*93.0*60.7

SGCAN300
SGCAN300 Canbus Relay Module
CAN总线中继模块
Can realize interconversion between MSC1 and optical fiber, RS485 and optical fiber, MSC1 and MSC2
可实现MSC1与光纤互转, RS485与光纤互转, MSC1与MSC2互转



Case Dimensions
外观尺寸(mm):71.6*92*60.7mm

KIO22
KIO22 Analog Input/Output Module
模拟量输入输出模块
2-way K-type thermocouple to 2-way 4-20mA output
2路K型热电偶转2路4-20mA输出
LINK接口/LINK Interface



Case Dimensions
外观尺寸(mm):71.6*93.0*60.7



MEM40

MEM40RM

MEM40

Engine Monitoring Controller/发动机监控仪

- ▶ It can be used for automatic control system of single electronic control engine, which can realize engine local start, stop, data measurement, display, alarm protection, and other functions; 可用于单台电控发动机自动化控制系统, 实现发动机的机旁开机、停机、发动机数据测量、显示、报警保护等功能;
- ▶ It is equipped with remote monitoring port that can connect remote monitoring controller to receive remote start / stop command; which can realize electronic control engine remote start, stop and other functions; 带有远程监控接口, 可接入远程监控控制器, 接收遥控开机、遥控停机指令; 实现发动机的远程开机、停机等功能;
- ▶ With override mode, emergency stop button;/具有越控模式、紧急停机按钮;
- ▶ With local/remote, self-check, mute, alarm reset keys;/具有机旁/遥控、自检、消音、报警复位按钮;
- ▶ LCD displays speed, water temperature, oil temperature, oil pressure, power voltage, start times and accumulated running time; LCD显示转速、水温、油温、油压、电源电压、开机次数和累计运行时间;
- ▶ With alarm log and start/stop event log function;/具有报警记录和起停机事件记录功能;
- ▶ Working temperature: (-25~70)°C;/工作温度: (-25~70)°C;
- ▶ Overall dimensions (L*W*H)(mm): 282 x 160.5 x 230; 外形尺寸(长*宽*高)(mm): 282 x 160.5 x 230;
- ▶ Cutout size (L*W)(mm): 160*65, monitoring controller comes with 4 shock absorbers, 4 M8 screws are required for installation (come with or add flat washers). 安装尺寸: (长*宽)(mm): 160*65, 监控仪自带4个减震器, 安装需要4个M8的螺丝 (需自带或增加平垫)。

MEM40RM

Remote Monitoring Module/远传模块

- ▶ It is equipped with MEM40 engine monitoring control box, without setting any parameters, which can automatically synchronize MEM40 data and configuration information; 配套MEM40发动机监控仪控制箱, 无需设置任何参数, 自动同步MEM40数据和配置信息;
- ▶ With power switch, emergency stop, override mode button; 具有电源开关、紧急停机、越控模式按钮;
- ▶ Communicate with monitoring control box via CANBUS; 通过CANBUS总线与监控仪控制箱通讯;
- ▶ With alarm reset, mute, dimmer key;/具有报警复位、消音、亮度调节按钮;
- ▶ Under remote mode, it can remotely control engine start, stop, alarm reset, etc.; 在遥控模式下, 可远程控制发动机的启动、停止, 报警复位等;
- ▶ LCD brightness can be adjusted/LCD亮度可调整;
- ▶ Cutout size (L*W) (mm): 262*205/开孔尺寸(长*宽)(mm): 262*205;
- ▶ Protection level: IP44/防护等级: IP44;
- ▶ Working voltage: DC(8~35)V./工作电压: DC(8~35)V。

Remark: The overall and installation dimensions can be adjusted according to demand, the dimensions listed in the brochure are for reference only. The functions listed in the brochure are modeled on HMC9000 series controller, which can be replaced with HMC4000 series and HMC6000 series controllers as needed for specific applications.

备注: 外形尺寸和安装尺寸可根据需要进行调整, 样册中所列尺寸仅供参考。样册所列功能以HMC9000系列控制器为蓝本, 具体应用时可根据需要替换成HMC4000系列和HMC6000系列控制器。



MGCP100B-3

HRM3300-3

MGCP100B-3

Diesel Engine Control Panel/柴油机控制屏

- ▶ With the functions of local start/stop, remote control start/stop, data measurement & display, alarm protection and etc. of the diesel engine; 具有柴油发动机机旁开机、停机、遥控开机、停机、数据测量、显示、报警保护等功能;
- ▶ With the remote monitoring interface to realize the remote start/stop functions of the engine by receiving the remote control start and automatic start instructions; 具有远程监控接口, 通过接收遥控开机、自动开机指令, 实现发动机的远程开机、停机等功能;
- ▶ With override mode, local/remote mode, emergency stop and start, normal mode/emergency mode knob; 具有越控模式、机旁/遥控模式、紧急停机、紧急启动、正常模式/紧急模式旋钮;
- ▶ With self-check, alarm reset, mute, and Lamp test button; 具有自检、报警复位、消音、试灯按钮;
- ▶ LCD can display the water temperature, oil temperature, oil pressure, speed, battery voltage, running time, start times, etc. of the engine; LCD显示发动机水温、油温、油压、转速、电池电压、运行时间、开机次数等;
- ▶ Real-time clock, alarm information display and event log, convenient for maintenance and troubleshooting; 具有实时时钟、报警信息显示和历史记录, 方便维护和故障查询;
- ▶ Operating voltage/工作电压: DC(18~35)V;
- ▶ Working Temperature (-25~+70)°C; 工作温度: (-25~+70)°C;
- ▶ CCS certification, IP44 protection level, BV certification; 具有CCS认证, 防护等级IP44, BV认证;
- ▶ Typical overall dimension: length*width*height (mm): 400*400*200 (without shock absorber, dimension can be adjusted); 典型外形尺寸: 长*宽*高(mm): 400*400*200(不含减震器, 尺寸可根据需要调整);
- ▶ Typical installation dimension: length*width (mm): 330*330, 4 shock absorbers M10 screw hole. 典型安装尺寸: 长*宽 (mm) : 330*330, 4个减震器M10螺孔。

HRM3300-3

Remote Control Panel/远程控制屏

- ▶ The remote control box with HMC9000A/S diesel engine controller, it can expand up to 16 HRM3300-3; 配套HMC9000A/S柴油发动机控制器的远程控制箱, 可最多扩展16个HRM3300-3;
- ▶ With emergency stop, power switch, override mode switch, and emergency stop, override mode light indication function; 具有紧急停机、电源开关、越控模式开关, 并具有紧急停机、越控模式灯指示功能;
- ▶ Communicate with diesel local control box via CANBUS; With self-check, alarm reset, mute, and Lamp test button; 通过CANBUS总线与机旁控制箱通讯; 具有自检、报警复位、消音、试灯按钮;
- ▶ In the remote monitoring mode, it has remote control start/stop, data measuring, alarm display functions, etc; 在远程监控模式, 可以远程控制开关机、数据测量、报警显示等功能;
- ▶ Adjustable LCD display brightness /LCD显示亮度可调;
- ▶ Cutout size: 332mm x 212mm/开孔尺寸: 332mm x 212mm;
- ▶ Protection level: IP44 /防护等级: IP44
- ▶ Operating voltage/工作电压: DC(18~35)V。



MGCP100B-2

Diesel Control Panel/柴油机控制屏

- ▶ Designed for control system of medium marine diesel engine; 适用于中型船舶柴油机控制系统;
- ▶ Controller can expand remote monitoring module(HMC6000RM) via CANBUS to achieve remote control of engine; 控制器可通过CANBUS扩展远程监控模块(HMC6000RM), 实现对发动机的远程监控;
- ▶ Controller can expand a 16-channel relay output module(DOUT16B) via CANBUS to realize alarms receiving and output controlling; 控制器可通过CANBUS扩展16路继电器输出模块(DOUT16B)实现多种报警和控制输出;
- ▶ Controller can expand security module(RPU560A) via CANBUS to achieve multiple protection of engine; 控制器可通过CANBUS扩展安保模块(RPU560A), 实现对发动机的多重保护;
- ▶ Maximum 6 sensor inputs can be connected to controller, four of them are available for the following types: (0~1)K resistance, (0~5)V voltage, (4~20)mA current; 控制器可接入最多6路传感器输入, 其中后4路可实现(0~1)K电阻型、(0~5)V电压型、(4~20)mA电流型的多种类型可选择;
- ▶ Dual-power transfer module(BTM300) can be fitted with controller to achieve uninterrupted switching of dual power supply and fault alarm; 控制器可配合双电源切换模块(BTM300), 实现两路电源的不间断切换和故障报警;
- ▶ Alarm threshold and protection delay of each sensor can be set by controller to protect every measuring point accurately; 控制器可分别对每一路传感器设置保护阈值和报警延时, 实现对每一个测量点的精准保护;
- ▶ All data can be set on control panel at the site, conveniently and efficiently; 参数均可现场通过面板进行设定, 方便快捷;
- ▶ Operating voltage/工作电压: DC(18~35)V;
- ▶ working temperature: (-25~+70)°C; 工作温度: (-25~+70)°C;
- ▶ CCS certification, IP44 protection level, BV certification 具有CCS认证, 防护等级IP44; BV认证;
- ▶ Case dimensions(L*W*H)/外形尺寸(长*宽*高)(mm): 650*480*200;
- ▶ Panel cutout(L*W)(mm): 580*410, 4 shock absorbers(M10 screw). 安装尺寸(长*宽)(mm): 580*410, 4个减震器(M10螺孔)。

Remark: The overall and installation dimensions of MGCP100B-3/MGCP100B-2/MGCP100L-2 can be adjusted according to demand, the dimensions listed in the brochure are for reference only. The functions listed in the brochure are modeled on HMC9000 series controller, which can be replaced with HMC4000 series and HMC6000 series controllers as needed for specific applications.

备注: MGCP100B-3、MGCP100B-2、MGCP100L-2外形尺寸和安装尺寸可根据需要进行调整, 样册中所列尺寸仅供参考。样册所列功能以HMC9000系列控制器为蓝本, 具体应用时可根据需要替换成HMC4000系列和HMC6000系列控制器。



MGCP100L-2

Diesel Control Panel/柴油机控制屏

- ▶ Designed for control system of large marine diesel engine; 适用于大型船舶柴油机控制系统;
- ▶ 4.3 inches colour LCD with backlight, multilingual interface (including English, Chinese); 4.3吋彩屏带背光, 可选中文/英文显示;
- ▶ Controller can expand 16 remote monitoring modules(HRM3300) at most via CANBUS to achieve remote monitoring of engine; 控制器可通过远程CANBUS扩展最多16路远程监控模块(HRM3300), 实现对发动机的远程监控;
- ▶ Controller can expand two 16-channel relay output modules(DOUT16B) at most via CANBUS to realize alarms receiving and output controlling; 控制器可通过扩展CANBUS扩展最多2块16路继电器输出模块(DOUT16B)实现多种报警和控制输出;
- ▶ Controller can expand two PT100 expansion modules(AIN16-PT) at most via CANBUS to realize PT100 analog data acquisition; 控制器可通过扩展CANBUS扩展最多2块PT100扩展模块(AIN16-PT), 实现多路PT100模拟量数据采集;
- ▶ Controller can expand two expansion modules(AIN16-C) at most via CANBUS to realize (4~20)mA signal acquisition; 控制器可通过扩展CANBUS扩展最多2块(4~20)mA扩展模块(AIN16-C), 实现多路(4~20)mA信号采集;
- ▶ Controller can expand two analog integrated modules(AIN16-M01) at most via CANBUS to realize temperature, pressure and speed acquisition as well as (4~20)mA signal outputting; 控制器可通过扩展CANBUS扩展最多2块模拟量综合模块(AIN16-M01), 实现多路温度、压力、转速数据采集, 同时可配置输出(4~20)mA信号;
- ▶ Controller can expand security module(RPU560A) via CANBUS to achieve multiple protection of engine; 控制器可通过扩展CANBUS扩展安保模块(RPU560A), 实现对发动机的多重保护;
- ▶ Controller can control and communicate with dozens of EFI engines with J1939 interface via CANBUS; 控制器可通过扩展CANBUS和具有J1939接口的数十种电控发动机进行控制及通信;
- ▶ Real-time clock, alarm information display and event log make it convenient for maintenance and troubleshooting; 具有实时时钟、报警信息显示和历史记录, 方便维护和故障查询;
- ▶ All data can be set on control panel at the site, conveniently and efficiently; 参数均可现场通过面板进行设定, 方便快捷;
- ▶ Operating voltage/工作电压: DC(18~35)V;
- ▶ working temperature: (-25~+70)°C; 工作温度: (-25~+70)°C;
- ▶ CCS certification, IP44 protection level, BV certification 具有CCS认证, 防护等级IP44; BV认证;
- ▶ MGCP100L-2: Case dimensions(L*W*H)(mm): 900*600*220; 外形尺寸(长*宽*高)(mm): 900*600*220;
- ▶ MGCP100L-2: Case dimensions(L*W*H)(mm): 480*270*1020. 外形尺寸(长*宽*高)(mm): 480*270*1020。

POWER MANAGEMENT CONTROLLER/功率管理控制器



HMC6
Power Management Controller
功率管理控制器

Model/型号	HMC6
Main Functions 主要功能	It is a standard power management system for marine applications. It is the one where start priority and other power management-related functions are calculated. The system can handle up to 16 diesel gensets to make automatic synchronization and load sharing. It has heavy consumer control, NEL trip and light load functions. It is suitable for 3-phase 4-wire, 3-phase3-wire, single phase 2-wire and 2-phase 3-wire systems with frequency 50/60Hz. 一套为船舶应用领域量身定制的功率管理系统。负责发电机启动优先级和其它相关功率管理功能的计算，能够实现16台发电机组的自动同步及负荷分配。具有重载问询、非重要负载脱扣、轻载有效等功能。适合于三相四线、三相三线、单相两线、两相三线、50/60Hz系统。
Display/显示器	4.3 inches TFT-LCD(480*272)/4.3吋彩屏
Operation Panel 操作面板	Silicon Rubber/硅胶
Language 控制模块语言	Chinese & English & Others/中文 & 英文 & 其他
Digital Input 开关量输入	7-way programmable input+3-way fixed input+2-way analog/digital multiplexed input. 7路可编程输入+3路固定输入+2路模拟量/开关量复用输入
Relay Output 继电器输出	9-way programmable output+6-way fixed output/9路可编程输出+6路固定输出
AC System/交流制式	1P2W/2P3W/3P3W/3P4W
Alternator Voltage/交流电压范围	AC(15~360)V(ph-N)
Alternator Frequency/交流频率	50/60Hz
kW/Amp Detecting & Display 功率/电流检测及显示	●
Monitor Interface/监控接口	RS485
Programming Interface 编程接口	USB/RS485
RTC & Event Log 实时时钟及历史记录	●
GOV/调速控制	(-10~10)V/(-20~20)mA
AVR/调压控制	(-10~10)V/(-20~20)mA
DIN16A Module Extension DIN16A模块扩展	●
DOUT16B Module Extension DOUT16B模块扩展	●
PLC Function/PLC功能	●
3-class Password Protection 3级密码保护	●
Safety Mode/安全模式	●
DC Supply 直流工作电源范围	DC(8~35)V
Case Dimensions 外形尺寸(mm)	266*182*45(L*W*H)
Panel Cutout 安装尺寸(mm)	214*160 (L*W)
Operating Temp. 工作温度	(-25~+70)°C

POWER MANAGEMENT CONTROLLER/功率管理控制器



HPM6D Display Panel
HPM6D 显示面板

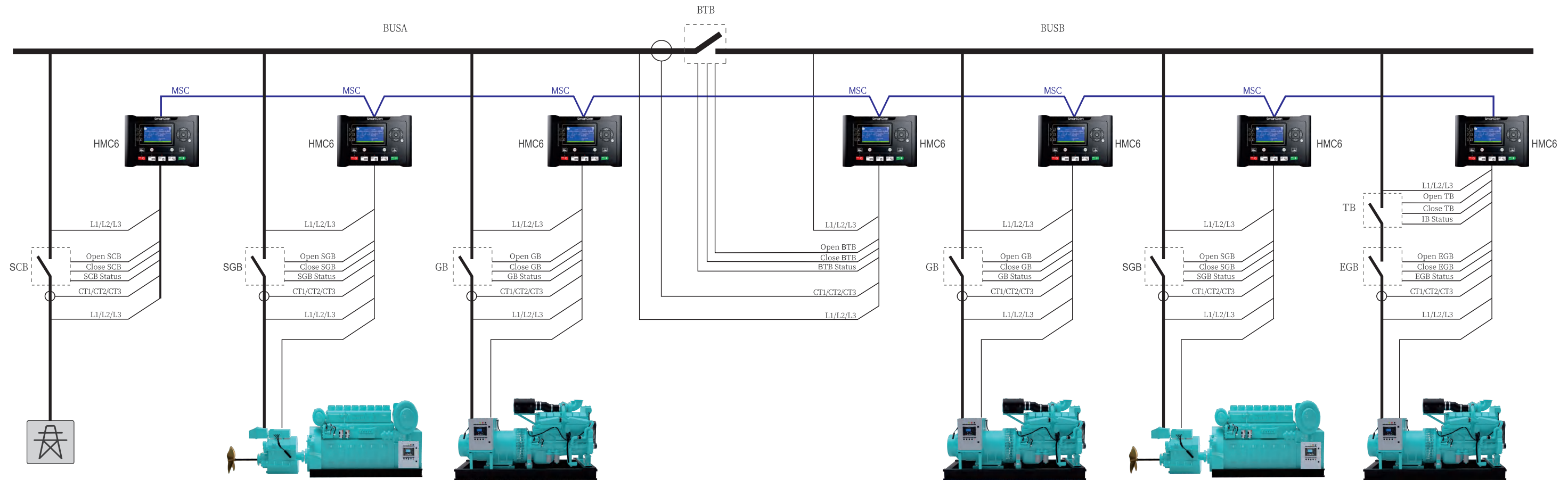
HPM6 Master Control Panel
HPM6 主控面板

Power Management Controller
功率管理控制器

Model/型号	HPM6
Main Functions 主要功能	It is a standard power management system for marine applications.It is the one where start priority and other power management-related functions are calculated.The system can handle up to 20 diesel gensets to make automatic synchronization and load sharing.HPM6 power management controller adopts split-type design, which is composed of display module HPM6D and master control module HPM6.Accuracy: 0.5% HPM6是一套为船舶应用领域量身定制的功率管理系统。负责发电机组启动优先级和其它相关功率管理的计算，能够实现20台发电机组的自动开停机、同步及负荷分配。HPM6 功率管理控制器采用分体式设计，由显示模块 HPM6D 和主控模块 HPM6 组成。精度等级：0.5%
Display/显示器	4.3-inches TFT-LCD(480*272)/4.3 吋液晶显示
Operation Panel/操作面板	Silicon Rubber/硅胶
Language/控制模块语言	Chinese & English & Others/中文 & 英文 & 其他
Digital Input/开关量输入	20
Output/输出	7 relay outputs+13 transistor output ports/20 (7个继电器输出+13晶体管输出)
Alternator Voltage/交流电压范围	1P2W/2P3W/3P3W/3P4W
Alternator Frequency/交流频率	AC(15 ~ 520)V(ph-N)
kW/Amp Detecting & Display 功率/电流检测及显示	50/60Hz
Monitor Interface/监控接口	●
Event log/历史记录	USB/RS485/CAN/以太网
Alarm record/报警记录	最多500
Programming Interface/编程接口	最多500
RTC & Event Log/实时时钟及历史记录	USB/以太网
USB HOST	●
GOV 调速控制	●
AVR 调压控制	●
Custom Protocol 自定义协议	Custom SLD 自定义单线图
Black Box Function 黑匣子功能	Harmonic Monitor 谐波监测
PLC Function PLC功能	Expand I/O 扩展
HC Inquiry 重载问询	Multilevel Protection 多级保护
DIN16A Module Extension DIN16A模块扩展	●
DOUT16B Module Extension DOUT16B模块扩展	●
3-class Password Protection 3级密码保护	●
Safety Mode 安全模式	●
DC Supply 直流工作电源范围	DC(8 ~ 35)V
Case Dimensions 外形尺寸(mm)	HPM6D: 220*130* 52(L*W*H); HPM6M: 250*165* 83(L*W*H)
Panel Cutout 安装尺寸(mm)	HPM6D: 201*111(L*W), embedded-in panel mounting HPM6M: hole distance237.5*152.5(L*W), aperture φ5.5*4, screw fixed installation HPM6D: 201*111(L*W), 嵌入式面板安装; HPM6:孔距237.5*152.5(L*W), 孔径:φ5.5*4,螺钉固定安装
Operating Temp. 工作温度	(-25~+70)°C

Solution For Power Management System(HMC6)

功率管理解决方案 (HMC6)



Shore Connection
岸电连接

Shaft Generator 1
轴带发电机组1

Diesel Generator 1
柴油发电机组1

Diesel Generator 2
柴油发电机组2

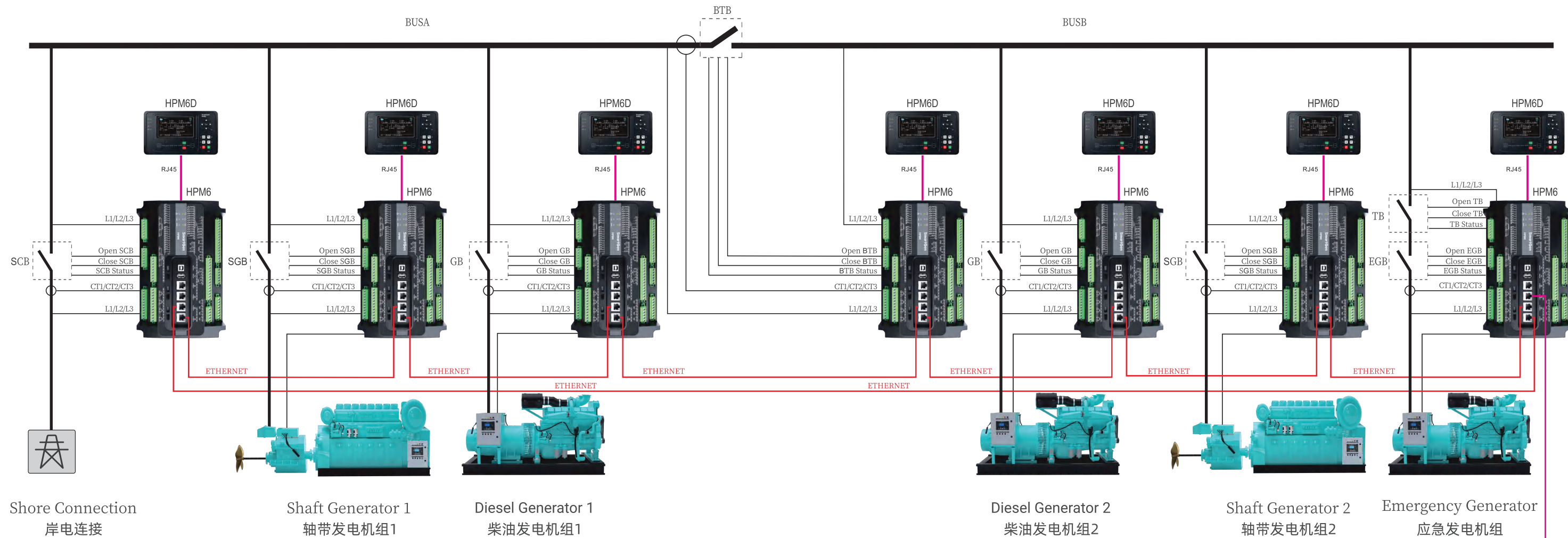
Shaft Generator 2
轴带发电机组2

Emergency Generator
应急发电机组

- ▶ Suitable for 1P2W/2P3W/3P3W/3P4W systems with frequency 50Hz/60Hz;
适用于1P2W/2P3W/3P3W/3P4W 电源50Hz/60Hz系统;
- ▶ Real-time clock, alarms information displaying and event log make it convenient for maintenance and faults finding;
具有实时时钟、报警信息显示和历史记录,方便维护和故障查询;
- ▶ 4.3 inches colour LCD with backlight, multilingual interface (including English, Chinese);
4.3吋彩屏带背光,可选中/英文显示;
- ▶ The automatic power station system consisting of up to 16 main diesel gensets, 3 shaft gensets, 3 shore power gensets, 2 harbor gensets and 5 tie switches can be realized, and it supports ring busbar control;
最多可实现16台主用柴发、3台轴带发电、3路岸电、2台停泊发电机组和5台联络开关组成的自动电站系统,支持环形母排控制;
- ▶ Can control GOV and AVR to achieve automatic speed/voltage regulating, synchronization and load sharing;
具有控制GOV和AVR的功能,可以实现自动调速、调压、同步、及负荷均分;
- ▶ With CCS、BV certificate/具有CCS、BV认证
- ▶ All-in-one design./ 一体式设计。

- ▶ Control and protection for engine: start/stop of the gen-set and protection of engine's various operating data;
具有发动机控制和保护功能,可对发动机的启动、停机进行控制,对发动机的各种运行参数进行保护;
- ▶ For Bus, controller has loss of phase and phase sequence wrong detection functions; For generator, controller has over voltage, under voltage, over frequency, under frequency, over current, over power, reverse power, loss of phase, phase sequence wrong detection functions;
母排具有缺相、逆相序检测功能,发电具有过压、欠压、过频、欠频、过流、过功率、逆功率、缺相、逆相序检测功能;
- ▶ with parallel/disconnect load soft transfer functions;
具有并联/解列时负载软转移功能;
- ▶ Major parameters can be set via panel on the site
绝大部分参数可现场通过面板进行设定
- ▶ Operating voltage/工作电压: DC(8~35)V;
- ▶ Operating condition: Temperature: (-25~+70)°C.
工作条件: 温度: (-25~+70)°C.

Solution For Power Management System(HPM6) 功率管理解决方案 (HPM6)



- ▶ HPM6 can realize up to 20 gensets automatic start/stop, synchronization and load sharing. Should the command unit fail, the power management calculations will be automatically transferred to the next available control unit. Each control unit is connected via network bus, which has device level ring redundancy function.
HPM6能够实现最多20台发电机组的自动开停机、同步及负荷分配。如果当前指令单元出现故障，功率管理计算将自动转到下一个可用控制单元。每一个控制单元都是由网络总线通信连接，具备设备级环网冗余功能。
- ▶ Suitable for 1P2W/2P3W/3P3W/3P4W systems with frequency 50Hz/60Hz;
适用于1P2W/2P3W/3P3W/3P4W 电源 50Hz/60Hz系统;
- ▶ Real-time clock, alarms information displaying and event log make it convenient for maintenance and faults finding;
具有实时时钟、报警信息显示和历史记录，方便维护和故障查询;
- ▶ 4.3 inches colour LCD with backlight, multilingual interface (including English, Chinese Others);
4.3吋彩屏带背光，可选中/英文/其他显示;
- ▶ Can control GOV and AVR to achieve automatic speed/voltage regulating, synchronization and load sharing;
具有控制GOV和AVR的功能,可以实现自动调速、调压、同步、及负荷均分;

- ▶ With CCS、BV certificate/具有CCS、BV认证
- ▶ Split type: master control module + display module
分体式设计:主控模块+显示模块
- ▶ Control and protection for engine: start/stop of the gen-set and protection of engine's various operating data;
具有发动机控制和保护功能,可对发动机的启动、停机进行控制,对发动机的各种运行参数进行保护;
- ▶ For Bus, controller has loss of phase and phase sequence wrong detection functions; For generator, controller has over voltage, under voltage, over frequency, under frequency, over current, over power, reverse power, loss of phase, phase sequence wrong detection functions;
母排具有缺相、逆相序检测功能,发电具有过压、欠压、过频、欠频、过流、过功率、逆功率、缺相、逆相序检测功能;
- ▶ With parallel/disconnect load soft transfer functions;
具有并联/解列时负载软转移功能;
- ▶ Major parameters can be set via panel on the site;
绝大部分参数可现场通过面板进行设定;
- ▶ Operating voltage/工作电压: DC(8~35)V;
- ▶ Operating condition: Temperature: (-25~+70)°C;
工作条件: 温度: (-25~+70)°C;

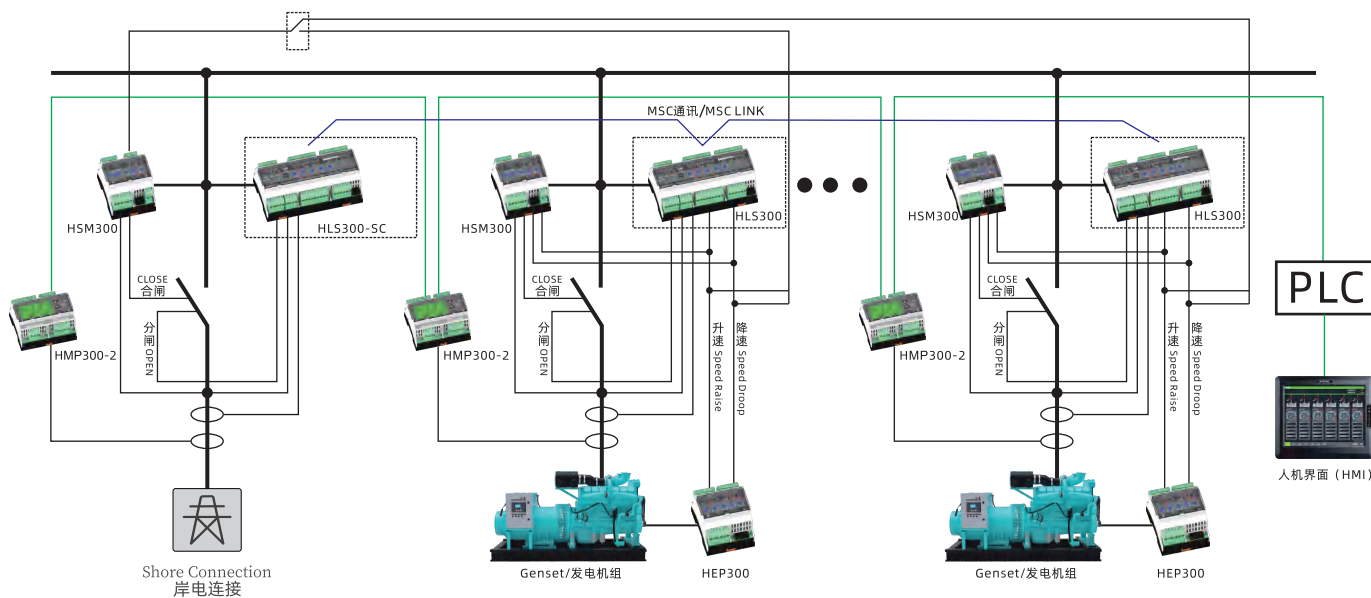
- ▶ Alarm log, which cannot be lost even in case of power outage, maximum 500 pieces can be recorded;
具有报警记录,掉电不丢失,最多可记录500条;
- ▶ Event log, which cannot be lost even in case of power outage, maximum 500 pieces can be recorded;
具有事件记录,掉电不丢失,最多可记录500条;
- ▶ User-defined protocol content function;
具有自定义协议内容功能;
- ▶ User-defined bus data function and built-in switch function, read other genset controller data from one controller;
具有自定义总线数据功能,内置交换机功能,可以从一台控制器读到其它机组控制器的数据;
- ▶ Harmonic analysis and generator voltage, current waveform display function;
具有谐波分析及发电电压电流波形显示功能;
- ▶ Real-time monitoring of data curve;
具有数据曲线实时监控的功能;

- ▶ Black box function, record data before and after alarm, do data analysis and find problem via PC software;
具有黑匣子功能,记录报警前后的数据,通过PC软件进行数据分析查找问题;
- ▶ Master control module can record USB, open USB record via PC software to do data analysis;
主控模块具有U盘记录功能,用PC软件打开U盘记录可以进行数据分析;
- ▶ Display module can open USB and save configuration files.
显示模块具有U盘打开、保存配置文件的功能。



HMU15N

HLS300+HSM300+HMP300+(HEP300) Solution For Power Management System HLS300+HSM300+HMP300+(HEP300)功率管理解决方案



- The system realizes the synchronization between the generators through the HSM300 synchronization module , and uses the HLS300 power sharing module to complete the load distribution, reverse power protection and automatic start/stop output functions between the generators;
- Convert the relay output signal of the PI step controller to the control voltage signal required by the governor/AVR via the electronic potentiometer (HEP 300);
- PLC control module of user can obtain rich electrical parameter information (voltage, current, power, harmonics and over-limit alarm) through the Modbus RTU interface provided on the HMP300 power comprehensive protection module, with the human-machine interface, users can quickly build a high-quality power management system that can support up to 16 diesel generator sets.

- 该系统通过HSM300同步模块实现发电机间的同步，利用HLS300功率均分模块完成发电机间的负荷分配、逆功率保护及自动起/停等输出功能；
- 通过电子电位器（HEP300）将PI步进控制器的继电器输出信号转换成调速器/AVR所需的控制电压信号；
- 用户的PLC控制模块可通过HMP300电量综合保护模块上配备的Modbus RTU接口获取丰富的电参量信息（电压、电流、功率、谐波及越限报警），配合人机界面用户可快速搭建起一套可支持多达16台柴油发电机组组网的高质量功率管理系统。

HLS300A
HLS300A Power Share Module
功率均分模块
Active and reactive sharing function
具备有功、无功均分功能



Case Dimensions
外观尺寸(mm):161.6*92.94*60.7

HMP300
Power Integrated Protection Module
电量综合保护模块
Power integrated protection module with CANBUS interface
电量综合保护模块，具有CANBUS接口。
Differential protection function
具备差动保护功能



Case Dimensions
外观尺寸(mm):107.6*93*60.7

HLS300
HLS300 Power Share Module
功率均分模块
Active sharing function
具备有功均分功能



Case Dimensions
外观尺寸(mm):161.6*89.7*60.7

HMT300
Multifunctional Transmitter
多功能变送器
High Sampling Accuracy (class 0.5)
高采样精度 (0.5级)
1-way Analog Output
1路模拟量输出
RS485接口/RS485 Interface



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

HSM300
HSM300 Sync Control Module
同步模块



Case Dimensions
外观尺寸(mm):71.6*89.7*60.7

HVD300
HVD300 Voltage Detection Relay
Multifunctional Protection Module
电压检测多功能保护装置



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7

HEP300
HEP300 Electronic Potentiometer
电子电位器



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7

HFT300
Frequency Detection Relay Multifunctional Protection Module
频率检测继电器多功能保护装置



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7

HMP300-2
Power Integrated Protection Module
电量综合保护模块
Power integrated protection module with RS485 interface
电量综合保护模块，具有RS485接口。
4-way programmable output, 2-way programmable input
4路可编程输出，2路可编程输入



Case Dimensions
外观尺寸(mm):107.6*89.7*60.7

HOC300
HOC300 Over Current Protection Relay
Multifunctional Protection Module
过流保护继电器多功能保护装置



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7

HPD300-S01
Multifunctional Comprehensive Protection Module
多功能综合保护装置
1-way overcurrent pre-alarm output
1路过流预报警输出
1-way open output (undervoltage, overcurrent long/short delay)
1路分闸输出(欠压、过流长延时、过流短延时)



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7

HPD300
HPD300 Reverse Power Protection Relay
Multifunctional Protection Module
逆功率保护继电器多功能保护装置



Case Dimensions
外观尺寸(mm):89.7*71.6*60.7



HWP40N

Water Pump Forced Circulation
Engine Water Heater
水泵强制循环水加热器



HWP40/HWP60/HWP90/HWP120

Water Pump Forced Circulation
Engine Water Heater
水泵强制循环水加热器

Model/型号	HWP40N	HWP40	HWP60	HWP90	HWP120
Main Functions 主要功能	Wide application on various engines coolant preheating. 适用于各种型号发动机的冷却液预加热。				
Rated Power 额定功率	4000W		6000W	9000W	12000W
Rated Voltage 额定电压	AC240V		AC420V		
Rated Current 额定电流	16.7A		8.3A	12.5A	16.7A
Phase 相数	1P2W		3P4W		
Engine Displacement 适用发动机排量(L)	20~30	15~30	25~50	50~75	75~100
Thermostat Range 断开及复位温度	Off/断开点: (5~70)°C On/复位点: (0~65)°C	Off/断开点: (5~99)°C On/复位点: (0~94)°C			
Default Thermostat Range 出厂温度值	Off/断开点: (40±2)°C On/复位点: (25±2)°C				
Overheating Switch 过热开关动作温度	Off/断开点: (95±3)°C On/复位点: Manual-return/ 手动复位	Off/断开点: (95±3)°C On/复位点: (80±6)°C			
Insulating Resistance 绝缘电阻	≥50MΩ				
Electrical Strength 电气强度	AC 1.5kV 1min				
Inlet/Outlet Size 进/出水口尺寸	G 3/4 internal thread(optional Φ19.5mm pagoda head or G 3/4 external thread) G 3/4 内螺纹(可选配Φ19.5mm宝塔头 或G 3/4 外螺纹)	3/4"(Φ19.5mm)			
Max. Water Pressure 承受最大水压	0.5MPa				
Pump Flow Velocity 水泵流速	40L/min (1.5m of lift/扬程1.5米时)				
Protection Class 防护等级	IP44				
Vibration 抗振动能力	(5~8)Hz; Amplitude/振幅±7.5mm; Tri-axial/三轴 (8~500)Hz; a/加速度=2g; Tri-axial/三轴				
Shock 抗冲击能力	Half-sine Wave/半正弦波; a _{peak} /峰值加速度=50g; Tri-axial/三轴				
Case Dimensions 外形尺寸(mm)	414*261*190(L*W*H)	444*270*380(L*W*H)			
Weight/重量(kg)	5.3	14			



HWP40-3/HWP60-3

Water Pump Forced Circulation
Engine Water Heater
水泵强制循环水加热器

Model/型号	HWP40-3	HWP60-3
Main Functions 主要功能	Wide application on various engines coolant preheating. 适用于各种型号发动机的冷却液预加热。	
Rated Power 额定功率	4000W	6000W
Rated Voltage 额定电压	AC420V	
Rated Current 额定电流	5.5A	8.3A
Phase 相数	3P3W	
Engine Displacement 适用发动机排量(L)	(15-30)L	(25-50)L
Thermostat Range 断开及复位温度	Off/断开点: (5~99)°C On/复位点: (0~94)°C	
Default Thermostat Range 出厂温度值	Off/断开点: (40±2)°C On/复位点: (25±2)°C	
Overheating Switch 过热开关动作温度	Off/断开点: (95±3)°C On/复位点: (80±6)°C	
Insulating Resistance 绝缘电阻	≥50MΩ	
Electrical Strength 电气强度	AC 1.5kV 1min	
Inlet/Outlet Size 进/出水口尺寸	3/4"(Φ19.5mm)	
Max. Water Pressure 承受最大水压	0.5MPa	
Pump Flow Velocity 水泵流速	40L/min (1.5m of lift/扬程1.5米时)	
Protection Class 防护等级	IP44	
Vibration 抗振动能力	(5~8)Hz; Amplitude/振幅±7.5mm; Tri-axial/三轴 (8~500)Hz; a/加速度=2g; Tri-axial/三轴	
Shock 抗冲击能力	Half-sine Wave/半正弦波; a _{peak} /峰值加速度=50g; Tri-axial/三轴	
Case Dimensions 外形尺寸(mm)	444*284*400(L*W*H)	
Weight/重量(kg)	18	

POWER ISOLATED MODULE/ 电源隔离模块



PDC2420
DC/DC Isolated Power
DC/DC隔离电源

Model/型号	PDC2420
Rated Input Voltage 额定输入电压	DC 24V
Max Input Voltage Range 最大输入电压范围	DC (18 ~ 72)V
Max Input Power 最大输入功率	605W
Max Input Current 最大输入电流	34A
Max Efficiency 最大效率	92%
Output Voltage Range 输出电压调整范围	DC (22 ~ 28)V
Rated Output Voltage 额定输出电压	DC 24V
Rated Output Current 额定输出电流	20A
Rated Output Power 额定输出功率	480W
Input Undervolt 输入欠压	欠压保护阈值DC17.5V
Output Overvolt 输出过压	关闭输出电压, 自动重启后恢复
Working Temp 工作温度	(-30~+60)°C
Working Humidity 工作湿度	20%RH~93%RH(无凝露)
Weight 净重 (kg)	1.51kg
Overall Dimension 外形尺寸(mm)	218.9mm×155mm×69mm (L*W*H)
Installation Dimension 安装尺寸(mm)	143mm×130mm (L*W)

CHARGER/ 充电器



BAC06A
Battery Charger
蓄电池充电器



BAC2408
Battery Charger
蓄电池充电器



BACM2410
Battery Charger
蓄电池充电器



BACM2420A
Battery Charger
蓄电池充电器

Model/型号	BAC06A-12V	BAC06A-24V	BAC2408	BACM2410	BACM2420A
Battery Voltage 电池电压	12V	24V	24V	24V	12V/24V
Charging Current 充电电流	6A±2%	3A±2%	8A±2%	10A±2%	20A±2%
Max Input Current 最大输入电流	2A		3A	4A	8.2A/4.2A
Rated Input Voltage 额定输入电压范围	AC(95 ~ 280)V		AC(100 ~ 240)V		AC(100 ~ 277)V
Max. Input Voltage Range 最大输入电压范围	AC(90 ~ 305)V		AC(90 ~ 280)V		AC(90 ~ 305)V
AC Frequency 交流频率	50Hz/60Hz				
Max Input Power 最大输入功率	100W		250W	340W	373W/736W
Max. Output Power 最大输出功率	85W		220W	290W	320W/640W
Communication Function 通信功能				RS485	RS485
Weight 净重 (kg)	0.65kg		0.9kg	1.17kg	2.2kg
Dimension 外形尺寸(mm)	143mm×96mm×55mm (L*W*H)		145.5mm×131mm×55mm (L*W*H)	205.5mm×131mm×55mm (L*W*H)	265mm×156mm×68mm (L*W*H)



BCW20
Battery Charger Box
蓄电池充电箱



BCB20
Battery Charger Box
蓄电池充电箱

Model/型号	BCW20	BCB20
Battery Voltage 电池电压	24V/12V	
Max. Charging Current 充电电流	20A±2%	
Max Input Current 最大输入电流	7A/3.5A	
Rated Input Voltage 额定输入电压范围	AC(100 ~ 277)V	
Max. Input Voltage Range 最大输入电压范围	AC(90 ~ 305)V	
AC Frequency 交流频率	50Hz/60Hz	
Max Input Power 最大输入功率	680W/340W	
Max. Output Power 最大输出功率	580W/290W	
Weight 净重 (kg)	6.2kg	
Dimension 外形尺寸(mm)	330mm×120mm×270mm (L*W*H)	315mm×213mm×222mm (L*W*H)