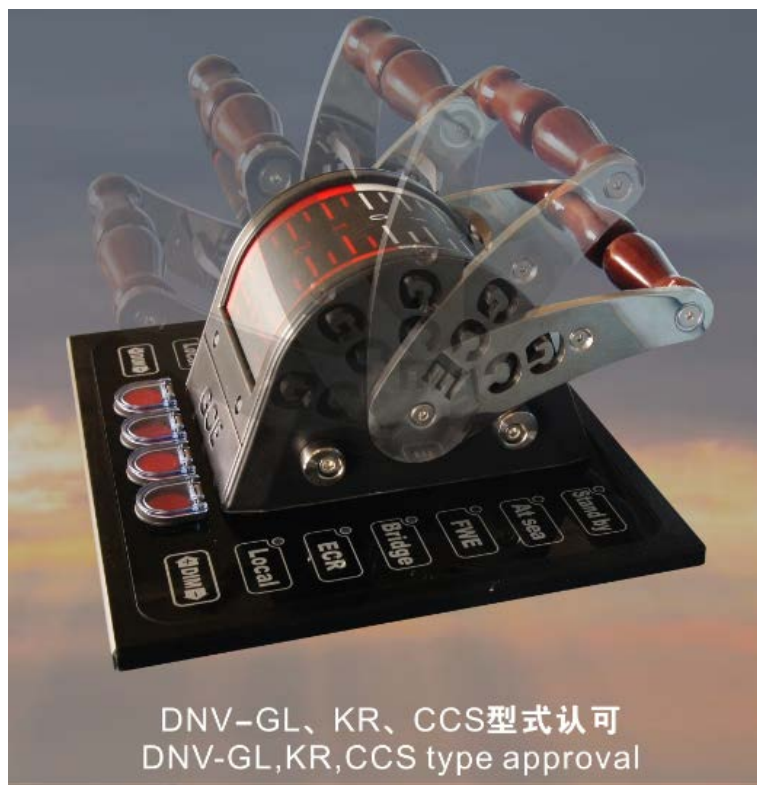


GCE 光彩电器

主机遥控产品使用手册

Main Engine Remote Control Product Manual



DNV-GL、KR、CCS型式认可
DNV-GL,KR,CCS type approval



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一、概述

Summary

主机遥控是指离开机旁，在驾驶台或集中控制室对主机进行远距离操纵的一种控制方式，我们把用于完成的这种遥控操作的控制系统称为主机遥控系统。

Main engine remote control is a control mode controlling the main engine in a bridge or centralized control room which is away from the main engine. The control system executing above remote control is called the main engine remote control system.

按照主机特性，主机遥控系统又分为可逆转型主机遥控与不可逆转型主机遥控两种，本系统是不可逆转型主机的遥控系统，也称中速机主机遥控系统。

According to the main engine characteristics, there are two kinds of the main engine remote control system: reversible transformation main engine remote control system and irreversible main engine remote control system. This system is the irreversible main engine remote control system, also known as intermediate speed main engine remote control system.

二、技术参数

Technical parameter

1.电源采用 AC 220V/DC 24V 双回路自动切换(AC 220V \pm 20%，DC 24V \pm 20%)

The power supply adopts AC220V/DC24V two-circuit automatic switching.

AC 220V \pm 20%, DC 240V \pm 20%

2.气源：工作压力 0.65~0.7Mpa(输入空气压力 1.0~1.5MPa)，空气过滤器精度 \leq 50u，气源低压报警值：0.55MPa（仅气控型需要）

Gas source: work pressure 0.65~0.7Mpa(input air pressure 1.0~1.5MPa), air filter accuracy \leq 50u, air source low pressure alarm value: 0.55MPa (only for pneumatic control type).

3.温度：-0℃~+55℃

Temperature: -0℃~+55℃

4.转速控制精度： $\leq \pm 1\%$

Speed control precision: $\leq \pm 1\%$

5.转速给定气压：0.05~0.45MPa 或 0.05~0.55MPa；（仅气控型需要）

Speed given pressure: 0.05~0.45MPa or 0.05~0.55MPa; (only for pneumatic control type)

6.转速控制输出信号：4-20ma 电流信号

Speed control output signal: 4-20mA current signal

7.对外输出信号

Output signals

7.1 VDR 信号为 RS485 信号（波特率 4800），通讯协议满足 NAME 0 1 8 3 协议。

The VDR signal being RS485 signal(baud rate 4800), Communication protocols meeting NAME0183 protocol.

7.2 对外检测报警输出信号为 RS485 信号（波特率 9600），通讯协议满足 MOODBUS RTU 协议。

The detection alarm output signal being RS485 signal(Baud rate 4800),

communication protocols meeting MODBUS RTU protocol.

8. 本产品满足中国船级社《电气电子产品型式认可试验指南》相关规范并通过船级社形式认可检验。

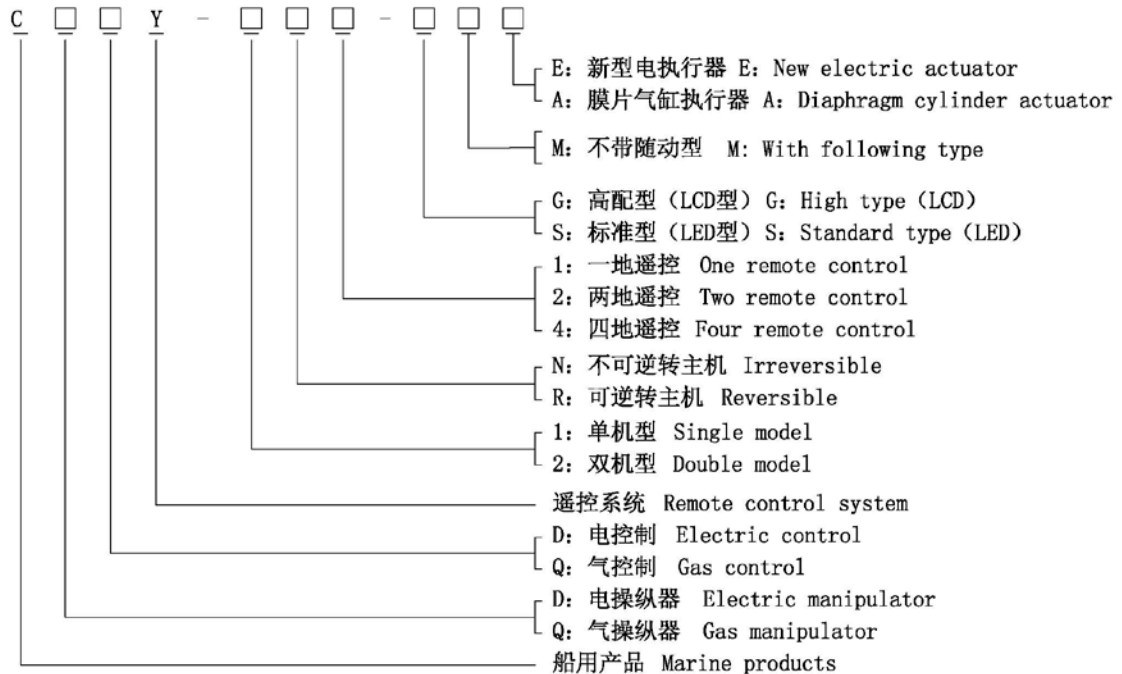
This product meets China Classification Society 《Guide for type approval test of electrical and electronic products》, and the relevant codes have been approved by classification societies.

9. 本产品符合中国船级社《钢质海船入级规范 2015》和其他船级社的要求。

This product is in conformity with China Classification Society 《Specification for grade 2015 of steel sea going ships》 and requirements of other classification societies.

三、选型

Model selection



四、项目组成及系统图

Project composition and system diagram

1. 驾控台单元

Bridge unit

2. 左翼单元 (选配)

Port wing unit (Selectable)

3. 右翼单元 (选配)

STBD wing unit (Selectable)

4. 集控室单元

ECC unit

5.机舱单元

Engine room unit

1.电源单元

Power supply unit

2.机舱主控单元

Main control unit

3.调速执行单元（4-20mA 调速型不需要）

Speed control execute unit

4.换向执行单元（只有气控换向型需要）

Reversing execute unit

5.主机测速单元

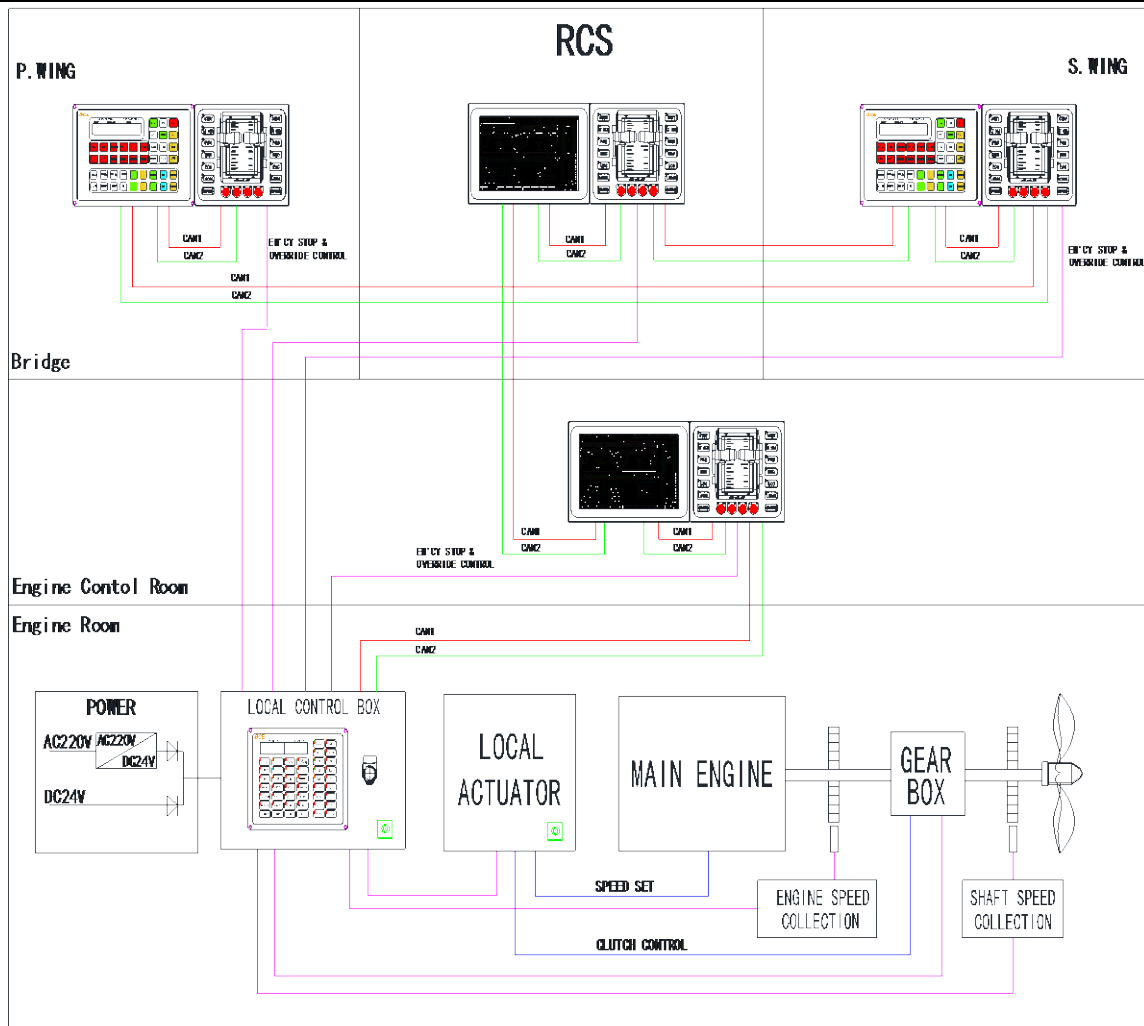
Main engine speed detecting unit

6.艏轴测速单元

Stern shaft speed detecting unit

6.系统图

System drawing



四、单元功能

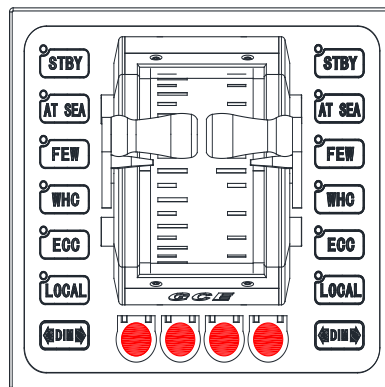
Unit function

1. 驾驶室单元

Unit of bridge

1.1 驾驶室操纵器

Manipulator of bridge



1.1.1 遥控操纵器为手柄式无级调速形式，防护等级为 IP22,具有调光功能。

遥控操纵器的主要功能是：发出转速指令信号和主机正车合排、倒车合排、空车指令信号。遥控操纵器的输出的指令可分为以下 9 档：空车（IDLE）、正 1、正 2、正 3、正 4、倒 1、倒 2、倒 3 和倒 4，通过检测操纵器输入的模拟量值可以知道操纵器所发的车令信号。

The remote control manipulator is of handle type stepless speed regulation form. The protection level is IP22 and it has dimming function. The main function of the remote control manipulator is sending signals of speed command, main engine AHEAD, main engine ASTERN and main engine IDLE. The output instructions of the remote control manipulator can be divided into the following 9 types: IDLE, AHEAD 1, AHEAD 2, AHEAD 3, AHEAD 4, ASTERN 1, ASTERN 2, ASTERN 3 and ASTERN 4. The system can recognize the instructions from the manipulator by detecting the analog value inputted by the manipulator.

1.1.2 操纵器具有自动跟踪功能，主机遥控运行中如果有多个工作站，其他工作站的操纵器手柄会自动跟踪当前工作站手柄的位置。当工作站之间进行转换时，不需要手动进行手柄匹配。

The manipulator has automatic tracking function. If there are multiple workstations during the main engine remote control operating, the manipulator handle of other workstations can automatically track the position of the current workstation handle. There is no need for manually mating the handle when changing the workstation.

1.1.3 操纵器内部有照明系统和调光电路。

The manipulator has lighting system and dimming circuit therein.

1.1.4 操纵器具有驾驶室、集控室、机旁转换按钮，可用于不同站点控制转换

The manipulator has a button for switching the control among the bridge room, the centralized control room and local position.

1.1.5 操纵器具有备车、航行、完车按钮用于车钟控制。

The manipulator has the standby button, the navigation button and the finishing button using for the vehicle clock control.

1.1.6. 紧急停车按钮可提供独立的干接点用于安全系统。

The emergency stop button provides independent dry contacts for safety systems

1.1.7. 安全越控按钮可提供独立的干接点用于安全系统。

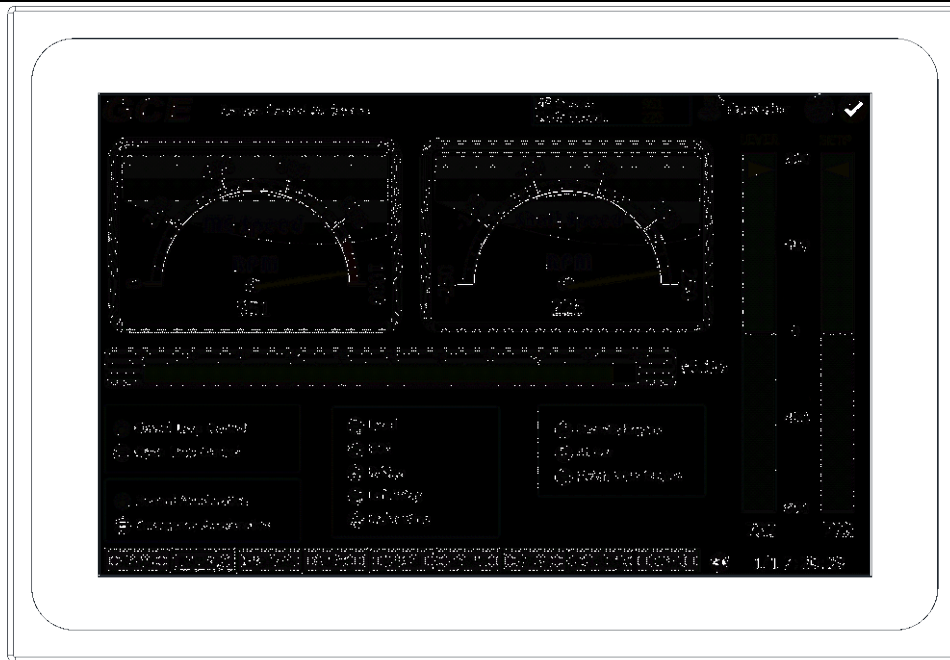
The safety override stop button provides independent dry contacts for safety systems

1.2. 驾驶室遥控操作面板有高配型和简配型供客户选择

It is provided with high edition and simple edition remote control panel for different customers.

1.2.1 高配型

High edition



高配型采用 10 寸高亮液晶屏作为主显示及操纵单元，操作界面美观，显示参数详细，主要有以下功能：

The high edition uses 10-inches high brightness LCD screen for the main display and control unit, having beautiful operation interface and displaying parameters in detail. The main functions are as follows:

1.2.1.1 主机及齿轮箱工况指示

Main engine and gear box working condition indication

1.2.1.2 主机参数越限值报警

Main engine parameters out of bounds alarming

1.2.1.2 主机操纵器位置指示

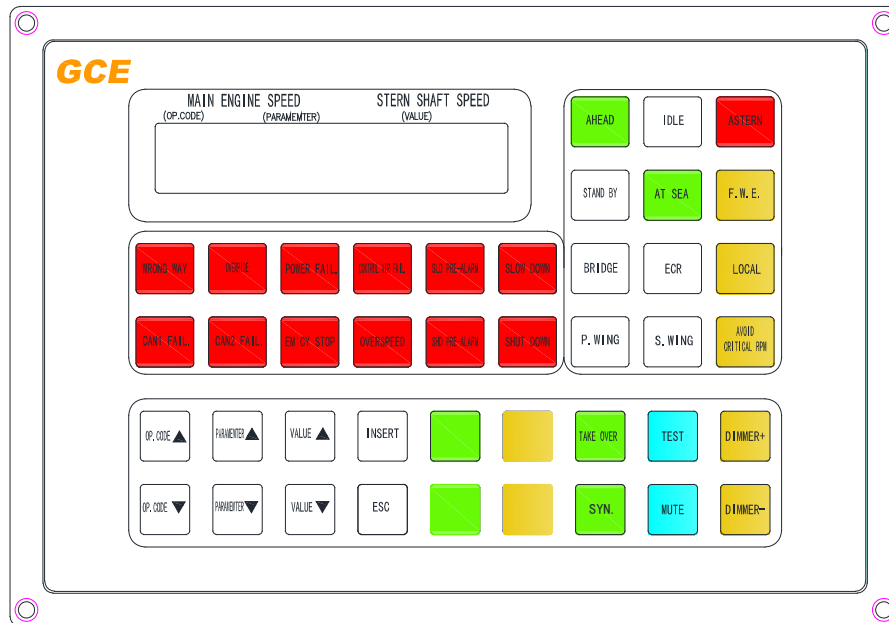
Main engine manipulator position indication

1.2.1.3 调速参数设置

Speed regulation parameters setting

1.2.2 低配型

Simple edition



低配型采用 LED 指示灯及机械按钮作为指示及操纵单元，操作简单，显示直观，主要有以下功能：

The simply edition uses LED indicators and mechanical buttons for indication and control unit, hasing simple operation and visual displaying. The main functions are as follows:

1.2.2.1 主机转速、尾轴转速及齿轮箱工作状态指示

Main engine speed, stern shaft speed, and gear box working state indication

1.2.2.1 主机参数越限值报警

Main engine parameters out of bounds alarming

1.2.2.3 调速参数设置

Speed regulation parameters setting

2. 左翼单元

Port wing unit

2.1 操纵器（同驾驶室）

Manipulator (same to bridge)

2.2 控制面板（同驾驶室简配板）

Control panel (same to the simple edition)

3. 右翼单元

STBD wing unit

3.1 操纵器（同左翼）

Manipulator (same to port wing)

3.2 控制面板（同左翼）

Control panel (same to port wing)

4. 集控室单元

Centralized control room unit

4.1 操纵器（同驾驶室）

Manipulator (same to bridge)

4.2 控制面板（同驾驶室）

Control panel (same to bridge)

5. 机舱单元

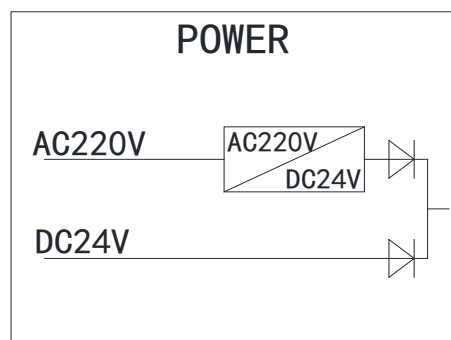
Engine room unit

5.1 电源单元

Power supply unit

电源单元采用 AC220V 和 DC24V 不间断供电，原理如下

The power supply unit adopts AC220V and DC24V uninterrupted power supply. The principle is as follows:



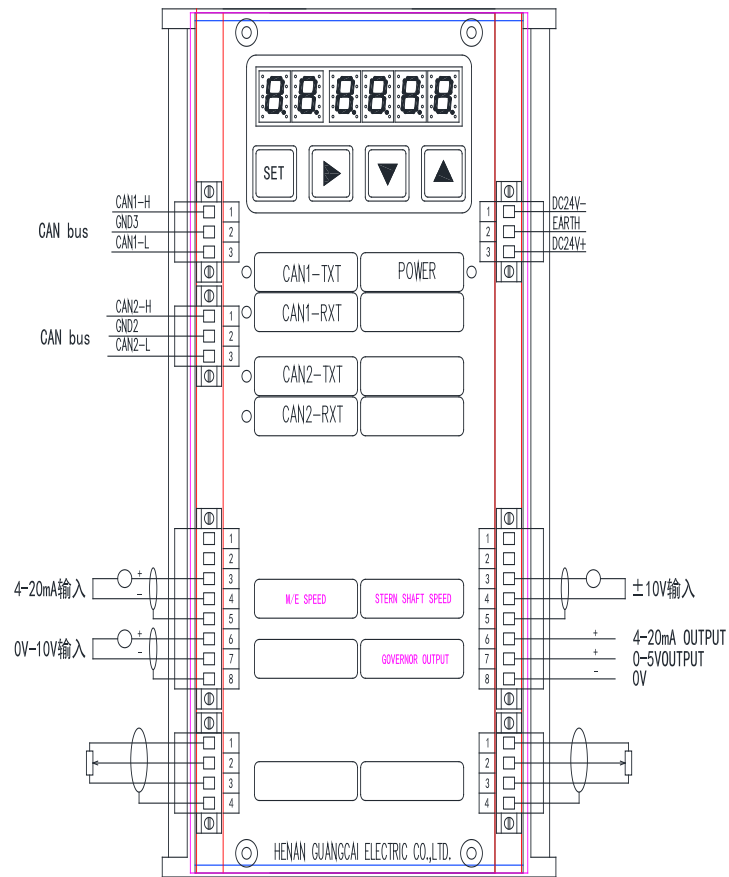
5.2 主控单元

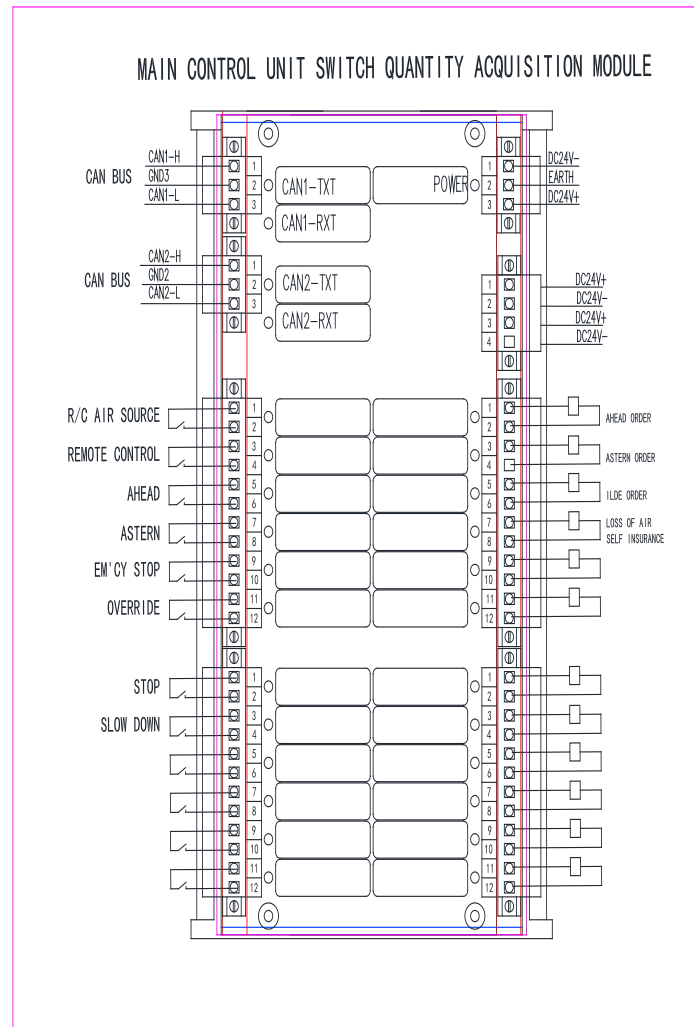
Main control unit

主控单元是主机遥控核心处理单元，主要负责主机遥控的调速、换向程序、负荷程序以及主机遥控信号采集。

The main control unit is the core processing unit of the main engine remote control, which is mainly responsible for the speed control of the main engine remote control, commutation programming, load programming and signal acquisition of main engine remote control.

ANALOG ACQUISITION MODULE OF MAIN CONTROL UNIT





5.3.调速执行单元

Speed control executing unit

5.4.换向执行单元

Reversing executing unit

5.5.气源处理单元

Air source processing unit

5.6.测速单元

Speed detecting unit

六、功能描述及控制流程图

Function description and control flow chart

1.满足遥控工作的条件

Conditions for remote control

1.1.主机已经启动

Main engine started

1.2.没有故障停车信号

No fault stop signal

1.3.没有紧急停车信号

No emergency stop signal

1.4.机舱控制站允许遥控，且转换到集控室或驾控状态

Permitting remote control for engine room control station, and switched to centralized control room or driving control state.

1.5.遥控工作气源压力正常（气控时需要）

Air pressure of remote control be normal (air control needing)

1.6.主机遥控系统自检正常

Self check of main engine remote control system be normal

2.控制站的切换

Switching of control station

2.1.本遥控系统可以选择在驾驶室及左右翼,集控室和机旁三个部位进行控制。

This remote control system can be used in the bridge and the port & STBD wings, the centralized control room or local position selectively.

2.2.操纵部位的任何转换，必须通过按键相互联系，并得到应答确认后才能转换。在紧急情况下，机舱可以直接转到机旁对主机进行控制。

Any switching among the manipulating sites must be connected with each other by buttons, and the switching can be converted only after reply confirmation. In case of emergency, the engine room can be directly transferred to the engine to control the main engine.

a.左右翼—驾驶室，双向转换只需新的控制站确认即可，但是手柄需要匹配。

The bidirectional conversion between port & starboard wing and bridge only needs to be confirmed by new control station, but needs handle matching.

b. 驾驶室—集控室，需要双方之间的确认，手柄需要匹配。

The conversion between bridge and engine control room needs to be confirmed between two sides, and also needs handle matching.

e. 机旁控制，由于机旁有最高控制权，因此只要机旁选择开关在机旁位置，控制权限将在机旁。

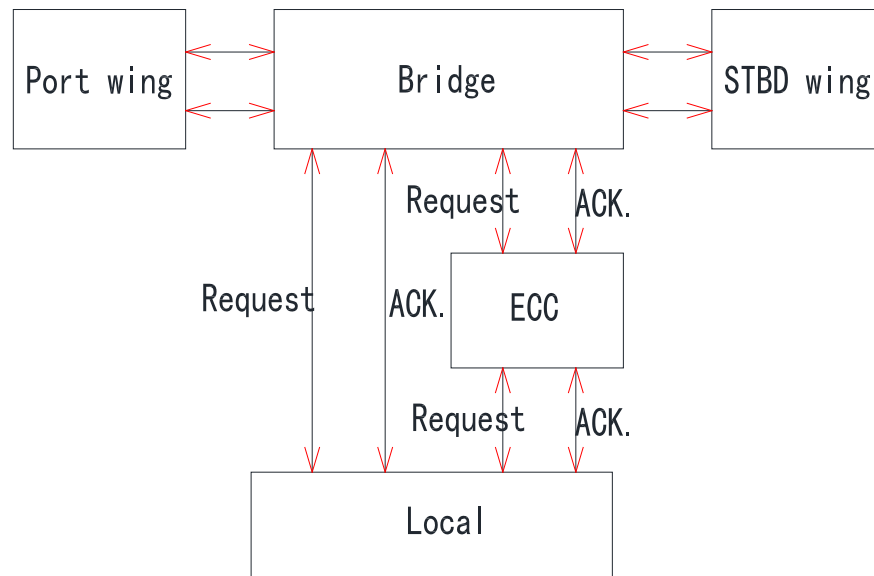
Due to local control has the highest control priority, the control authority will be local position whenever the selecting switch has been located beside the machine.

2.3.控制站间权限转换，机旁优于集控室，集控室优于驾驶室,驾驶室优于左右翼。

The control right of local position is higher than the centralized control room thereof, the centralized control room thereof is higher than the bridge thereof, and the bridge thereof is higher than the port & STBD wings thereof.

2.4.控制站之间的转换操作流程

Switching operation flow among control stations



2.6 换向

Reversing

中速机的换向有以下几种情况

The commutation of medium speed machine has the following situations

- a 空车----正车
Idle-----Ahead
- b 空车----倒车
Idle-----Astern
- c 正车----倒车
Ahead-----Astern
- d 倒车----正车
Astern-----Ahead
- e 正车----空车
Ahead----Idle
- f 倒车-----空车
Astern----Idle

3.主机转速控制

Main engine speed control

主机的转速由液压调速器或电子执行器进行自动调节。转速设定值由主控站的操纵手柄发出，转速控制为闭环控制，当遥控控制单元所测得的实际转速与所要求的设定转速有差别，并超过一定的预定值时，立即调整输出到调速器的最后的设定值使转速满足要求。这样的闭环控制消除了液压调速器的调节误差，提高了转速控制的精度。当转速检测出现故障时遥控系统除了报警外自动执行开环控制，避免因转速检测失效造成其他故障和失控。开环控制时控制系统不再闭环转速，只按照操纵器设定值输出调速信号，换向时间采用系统设定的最大换向时间进行换向操作，正常遥控时控制系统能自动完成加速速率限制，程序负荷、自动避开临界转速、最高转速限制、轮机长转速设定和最大油量限制的控制功能，这些参数可以通过液晶屏进行参数设定，当应急操纵时这些功能将被取消或参数改变。

The speed of the main engine is adjusted automatically by hydraulic governor or electronic actuator. Speed setting value is issued by the handle of the master station. The speed control is closed-loop control. When the actual speed measured by the remote control unit is different from the required set speed and beyond a certain predetermined value, the control system immediately adjusts the output to the final setting value of the governor so that the speed meets the requirements. Such closed-loop control eliminates the adjustment error of the hydraulic governor and the accuracy of speed control is improved. When the rotating speed detection fails, the remote control system performs automatic open loop control in addition to the alarm, avoiding the failure caused by rotating speed detection and other failures and being out of control. When the control system is running in open loop, the speed is no longer closed loop and it outputs speed control signal only according to the setting value of the manipulator. The commutation time is reversed by the maximum reversing time set by the system, and the control system can automatically completes control functions of acceleration rate limiting, load programming, automatic avoiding of critical speed, maximum speed limiting, engine speed setting and of maximum oil quantity restricting during normal remote control. These parameters can be set through the LCD screen. These functions will be cancelled or the parameters will be changed when emergency handling.

3.1 自动避开临界转速

Automatic avoiding of critical speed

当遥控操纵器发出的转速设定进入主机临界转速范围内时，遥控控制单元能将最后的转速设定输出值控制在临界转速的下限或上限。

When the speed setting by the remote controller is falling into the critical speed range of the main engine, the remote control unit can control the final speed setting output value between the lower or upper limit of the critical speed.

3.2 最高转速限制和轮机长转速限制

Maximum speed limiting and wheel speed limiting

遥控控制单元可以设定正车转速的最大转速限制和倒车转速的最大转速限制值，不管遥控操纵器的手柄扳至任何最大位置，正车或倒车的最后输出的设定值不会超过预先的最大转速限制值，这两个限制值可在遥控控制单元的液晶屏上设定。

The remote control unit can set the maximum speed limit of the positive vehicle speed and the maximum speed limit value of the reverse speed. Regardless of the hand positions of the remote manipulator, the setting value of the final output of the driving or reversing will not exceed the maximum speed limiting value, and these two limiting values can be set through the LCD screen of the remote control unit.

3.3 最大油量限制

Maximum oil limiting

为防止主机在遥控时超扭矩，设置不同转速设定下的油量限制。在主机实船调试时，将根据主机厂提供的特性曲线，设定不同转速下的最大油门的限制。

In order to prevent the main engine from exceeding torque during remote control, the limits of oil amount can be set under different speed settings. During commissioning of the main engine, the maximum throttle limits at different speeds can be set according to the characteristic curve provided by the main engine factory.

3.4 加速速率限制和程序负荷

Acceleration rate limiting and programming load

加速限制程序是为了防止主机在加速过程中因加速过快导致超负荷而设置的。在加速时，车钟手柄可能从低速档立即扳到高速档，其转速设定值近似阶跃增大。如果把该信号直接送至调速器的输入端，则在调速器 PI 作用下必有一个阶跃的输出，主机转速会很快增加，这在正常操作情况下是不允许的。为此，要设置加速限制程序。加速给定值的变化规律是预先设定的时间函数。在低负荷区加速时，加速给定值，或者说主机实际转速可快一些增大，我们常把低负荷区加速时的转速限制称为“加速速率限制”。而在高负荷区，通常是在 70% 额定转速以上再加速时，加速的给定值要慢慢增加，我们常把这个加速过程称为“程序负荷”。在减速时，可取消某些限制实现“快减速”。

The acceleration limiting program is designed to prevent the main engine from overloading during acceleration due to excessive acceleration. During accelerating, the handle of the vehicle clock may be pulled from the low speed gear to the high speed gear immediately, and the speed setting value is approximately increased step by step. If the signal is sent directly to the input of the governor, under the action of governor PI, there will be a step output, and the main engine speed will increase rapidly which is not allowable under normal operating conditions. To this end, the acceleration limiting program should be set. The change rule of the acceleration setting value is a function of

the preset time. When accelerated in the low load area, the value is constant, or the actual speed of the main engine can be increased faster, often being called "the acceleration rate limit". In the high load area, it is usually accelerated when the speed is above 70%, and the value should be increased slowly, often being referred as "program load". When deceleration, some restrictions can be cancelled to achieve "fast deceleration".

4 故障降速

Failure rate reduction

根据船舶规范要求的一些重要参数出现故障,并超过预先的设令极限时,独立于遥控装置的安全系统发出“故障降速”信号至遥控装置,遥控控制单元立即解除遥控操纵器发出的转速指令信号而代之以一个预先设定的低转速信号,使主机自动降速并发出声光报警,当参数恢复正常后,转速设定自动恢复到原来遥控操纵器的设定值,逐渐升速到该设定值。

When some important parameters are found to be out of order and beyond the preset limit according to the requirements of ship specifications, the safety system which is independent of the remote control unit sends the "fault down speed" signal to the remote control device. The remote control unit will immediately releases the speed command signal issued by the remote control operator instead of a preset low speed signal, automatically reducing the speed of the main engine and sending sound and light alarms. When the parameters are restored to normal, the speed setting will be automatically restored to the setting value of the original remote controller and increased to the set value gradually.

5 故障停车

Failure stopping

当根据船舶规范要求的重要参数出现故障,并超出危险的极限值时,独立于遥控装置的安全系统发出“故障停车”信号至遥控装置,遥控装置立即将其转速设定值降为 0,主机立即停车。同时,安全系统还将通过其本身自带的停车电磁阀,将主机断油停车。

When the important parameters required by the ship code fails and exceeds the limit of danger, the safety system independent of remote control sends "fault stop" signal to remote control device. The remote control device will immediately reduce its speed setting to 0, and the engine will stop immediately. At the same time, the safety system will stop the engine through its own parking solenoid valve.

主机故障停车后,只有满足以下条件时,遥控装置才能恢复正常:

When the main engine fails, the remote control device can resume to normal only when the following conditions are met:

- * 引起故障停车的参数恢复正常

The parameters causing the shutdown returned to normal

- * 主机重新启动并已达到空车转速

The main engine being restarted and reaching the Idle speed

* 遥控操纵器放在空车位置

The remote manipulator being placed in the Idle position

6. 紧急停车

Emergency shutdown

在驾驶室与集控室均设置紧急停车按钮,当紧急情况需要立即停车时,按下该按钮,遥控装置立即将其转速设定值降为 0,同时安全系统还将通过主机自带的停车电磁阀,将主机断油停车。主机立即停车,该信号将保持直到机舱人员按急停解除按钮后才消失,同时输出紧急停车报警信号,报警信号也将被保持直到机舱人员按急停解除按钮后才消失。

Emergency stop buttons are provided both in the bridge and the centralized control room. When emergency situations require immediate parking, press the button and the remote control device immediately set its speed down to 0. At the same time, the safety system will stop the engine through the main engine parking solenoid valve. The main engine will stop immediately and the signal will remain until the cabin crew stops the emergency stop button. Meanwhile, the emergency stop alarm signal is output, and the alarm signal will also be maintained until the cabin crew pressing the emergency stop release button.

主机紧急停车后,只有满足以下条件时,遥控装置才能恢复正常:

When the main engine stops, the remote control device can resume to normal only when the following conditions are met:

* 引起故障停车的参数恢复正常

The parameters causing the shutdown returned to normal

* 遥控操纵器放在空车位置

The remote controller being placed in the Idle position

7. 安全越控

Safely override

在驾驶室设置安全越控按钮,当按下该按钮后,能解除一些因保护主机所设置的一些限制,取消负荷的程序控制,负荷保护被减小,主机负荷变化加快.甚至可以将主机运行在超负荷下.如:

It is provided with the safely override control button in the bridge. When this button is pressed downward, some restrictions for protecting the main engine can be released, program control of load can be cancelled and load protection can be reduced. The main engine load will change quickly. The main engine can run under overload, such as:

* 遥控时,取消负荷的程序控制,当使用该模式以后,负荷保护被减小,主机负荷变化加快.甚至可以将主机运行在超负荷状态(110%)

In remote controlling state, the program control of the load is cancelled, when this mode is used, the load protection is reduced and the main engine load will changes quickly. The main engine can even run in a state of overload (110%)

* 遥控时,取消油量限制,油量相对于转速的限制值较正常操纵时增加 5%

In remote controlling state, the oil limit is cancelled and the limiting value of

oil relative to the rotational speed is increased by 5% compared with the normal operation.

- * 遥控时，解除故障降速功能

In remote controlling state, removing the fault deceleration function

- * 遥控时，解除最高转速限制

In remote controlling state, removing the maximum speed limit

- * 遥控时，解除故障停车功能

In remote controlling state, removing the function of fault parking

8 超速停车

Overspeed shutdown

遥控系统可设置独立于安全系统的飞车保护功能，当主机转速高于超速设定值时系统立即发出紧急停车信号使主机停机，该信号将保持直到机舱人员按急停解除按钮后才消失，同时输出超速报警信号和紧急停车报警信号，这两种报警信号也将被保持直到机舱人员按急停解除按钮后才消失。

Remote control system can be set independent of the safety system of the vehicle protection function. When the main engine speed is higher than the set speed, the system immediately sends an emergency stop signal to stop the main engine. The signal will remain until the cabin crew pressing down the emergency stop release button. At the same time, overspeed alarm signal and emergency stop alarm signal is output. The two alarm signals will also be kept until the cabin crew pressing down the emergency stop release button.

主机超速停车后，只有满足以下条件时，遥控装置才能恢复正常：

When the main engine overspeed stops, the remote control device can resume to normal only when the following conditions are met:

- * 引起故障停车的参数恢复正常

The parameters causing the shutdown returned to normal

- * 主机重新起动并已达到空车转速

The main engine being restarted and reaching the Idle speed

- * 遥控操纵器放在空车位置

The remote controller being placed in the Idle position

10 机旁控制

Local control

当遥控/应急/机旁三位置转换气阀扳在“机旁”位置时，机旁控制主要用于试验和应急状态，此时遥控的功能将被解除。

When the remote control / emergency / local three-position switching valve is placed in “local” position, the local control is mainly used in the test and emergency state. At this point, the remote control function will be removed.

轮机人员直接操纵液压调速器气动执行器上的旋钮进行转速设定，并可通过操纵机旁正车/空车/倒车三位置控制阀，来控制主机的正向启动、停车、反向启动。为便于集中操纵，机旁控制单元应尽量安装在调速器附近，机旁控制时逻辑判断需要轮机人员完成。

The marine engineer directly controls the hydraulic governor and the knob on the pneumatic actuator to set the speed and controls the forward start, stop and reverse start of the main engine through the control machine next to the car / empty car / reversing three position control valve. In order to facilitate centralized operation, the local control unit should be installed near the governor as far as possible and the logical judgment needs to be completed by the crew when the marine is controlled by the local

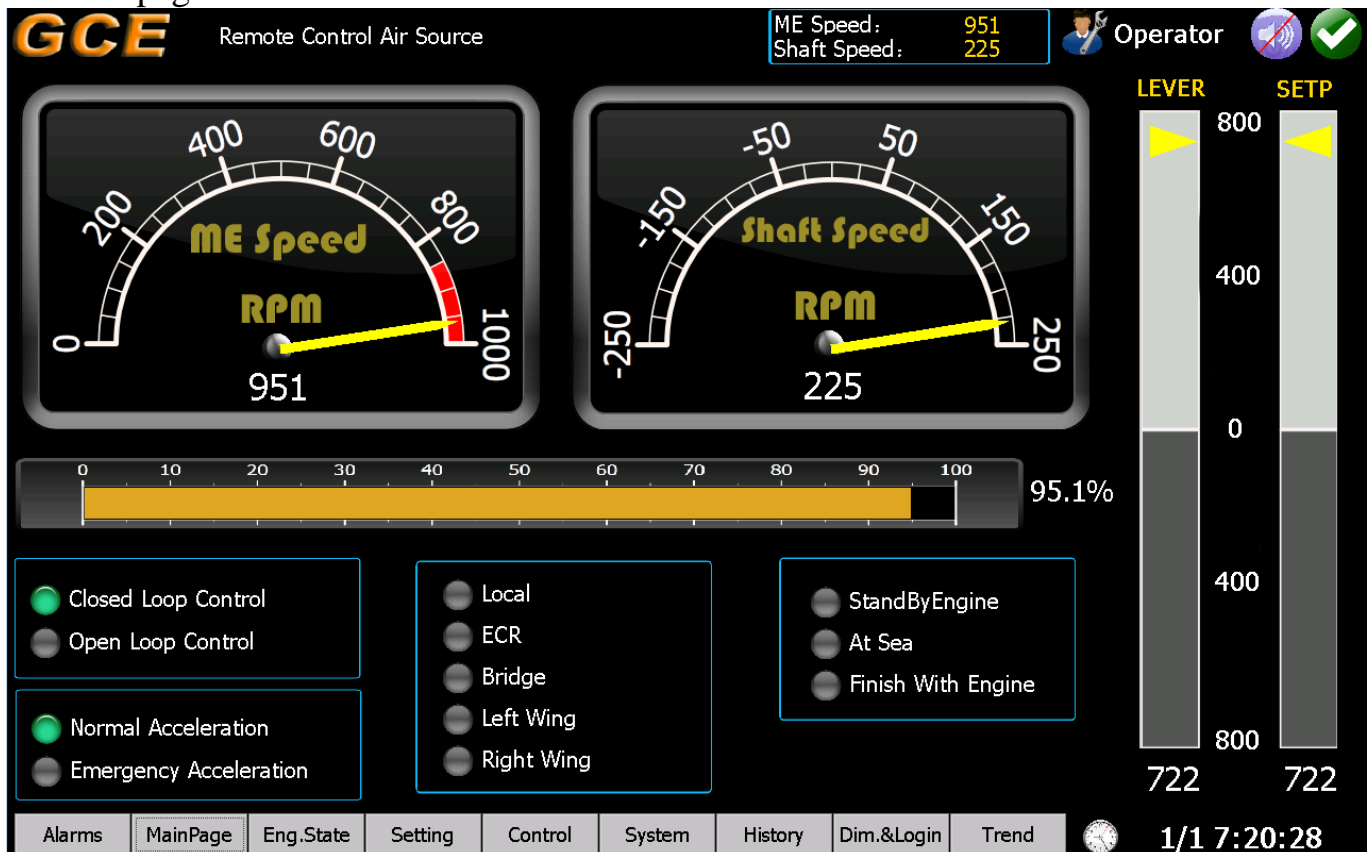
当从遥控状态转换成机旁/应急操纵时，扳动释放阀将设定气压释放后，即可手动操纵主机自带的调速旋钮对主机转速进行调节。

When the control valve is released from the remote control state to the machine side / emergency operation, the release valve will release the set pressure and then manually control the speed knob of the main engine to adjust the speed of the main engine.

七、液晶屏界面介绍

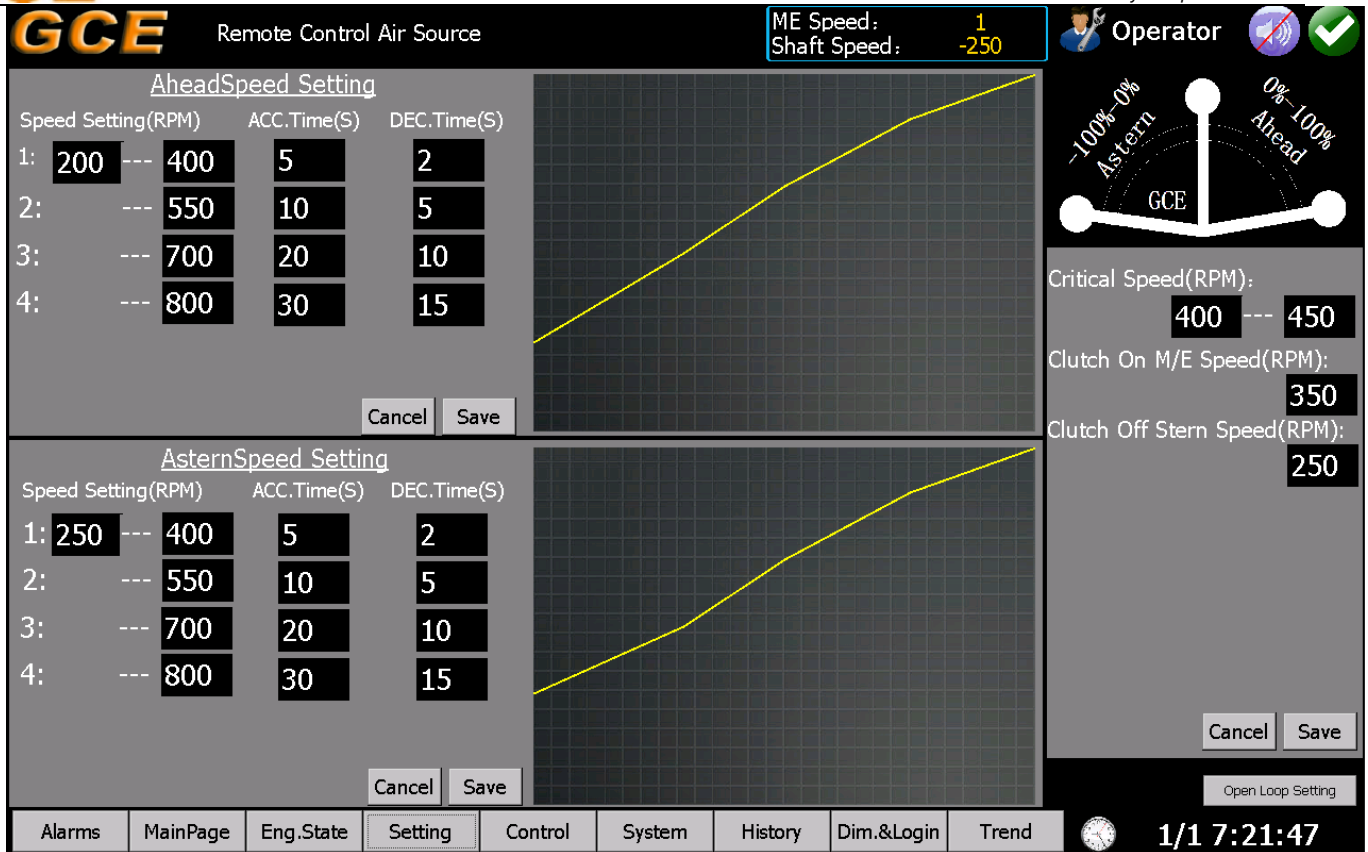
1.主界面

Mainpage



2.参数设置界面

Parameter setting interface



1. 此界面可以设置如下参数

The interface can set the following parameters

1.1 正车档位设置

Ahead gear position setting

1 档转速 空车到前进 1 时间

1 gear speed time for Idle to ahead 1

2 档转速 前进 1 到前进 2 时间

2 gear speed time for ahead 1 to ahead 2

3 档转速 前进 2 到前进 3 时间

3 gear speed time for ahead 2 to ahead 3

4 档转速 前进 3 到前进 4 时间

4 gear speed time for ahead 4 to ahead4

1.2 倒车档位设置

Astern gear position setting

1 档转速 空车到后退 1 时间

1 gear speed time for Idle to astern 1

2 档转速 后退 1 后退到前进 2 时间

2 gear speed time for astern 1 to astern 2

3 档转速 后退 2 到后退 3 时间

3 gear speed time for astern 2 to ahstern 3

4 档转速 后退 3 到后退 4 时间

3.实时报警界面

Real time alarm interface



Remote Control Air Source

ME Speed: 44

Shaft Speed: -228



Operator




	TagID	Description	Value	Time	Status	Type	Spare
	DI0000	Remote Control Air Source	False	1/1 7:18:11	Alarm	XI	
✓	DI0072	Left Wing CAN1 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0071	Local CAN2 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0073	Left Wing CAN2 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0075	Right Wing CAN2 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0074	Right Wing CAN1 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0070	Local CAN1 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0067	Bridge CAN2 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0066	Bridge CAN1 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0069	ECR CAN2 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0068	ECR CAN1 Fail.	False	1/1 6:05:24	AlarmAck	XI	
✓	DI0005	OverLoad	False	1/1 6:05:12	AlarmAck	XI	

Alarms

MainPage

Eng.State

Setting

Control

System

History

Dim.&Login

Trend



1/1 7:19:13

此界面显示当前发生的报警

This interface displays the current alarms

4.历史报警界面

History alarm interface

GCE Remote Control Air Source							
					ME Speed: 148 Shaft Speed: -176	Operator	
TagID	Description	Value	Time	Status	Type	Spare	
A DI0000	Remote Control Air Source	True	1/1 7:18:11	Alarm	XI		
DI0000	Remote Control Air Source	False	1/1 7:18:04	ResumeWithoutAck	XI		
A DI0000	Remote Control Air Source	True	1/1 7:18:00	Alarm	XI		
DI0000	Remote Control Air Source	False	1/1 7:17:55	ResumeWithoutAck	XI		
A DI0000	Remote Control Air Source	True	1/1 7:17:49	Alarm	XI		
DI0000	Remote Control Air Source	False	1/1 7:17:39	Normal	XI		
DI0075	Right Wing CAN2 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0074	Right Wing CAN1 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0073	Left Wing CAN2 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0072	Left Wing CAN1 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0071	Local CAN2 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0070	Local CAN1 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0069	ECR CAN2 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0068	ECR CAN1 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0067	Bridge CAN2 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0066	Bridge CAN1 Fail.	True	1/1 7:16:22	AlarmAck	XI		
DI0005	OverLoad	True	1/1 7:16:22	AlarmAck	XI		
DI0000	Remote Control Air Source	True	1/1 7:16:22	AlarmAck	XI		
A DI0075	Right Wing CAN2 Fail.	True	1/1 6:05:24	Alarm	XI		
A DI0074	Right Wing CAN1 Fail.	True	1/1 6:05:24	Alarm	XI		
A DI0073	Left Wing CAN2 Fail.	True	1/1 6:05:24	Alarm	XI		

5.系统状态界面

System state interface

Remote Control Air Source

ME Speed: 245
Shaft Speed: -128

Operator

Left Wing CAN1 Fail.
 Left Wing CAN2 Fail.

Bridge CAN1 Fail.
 Bridge CAN2 Fail.

Right Wing CAN1 Fail.
 Right Wing CAN2 Fail.

ECR CAN1 Fail.
 ECR CAN2 Fail.

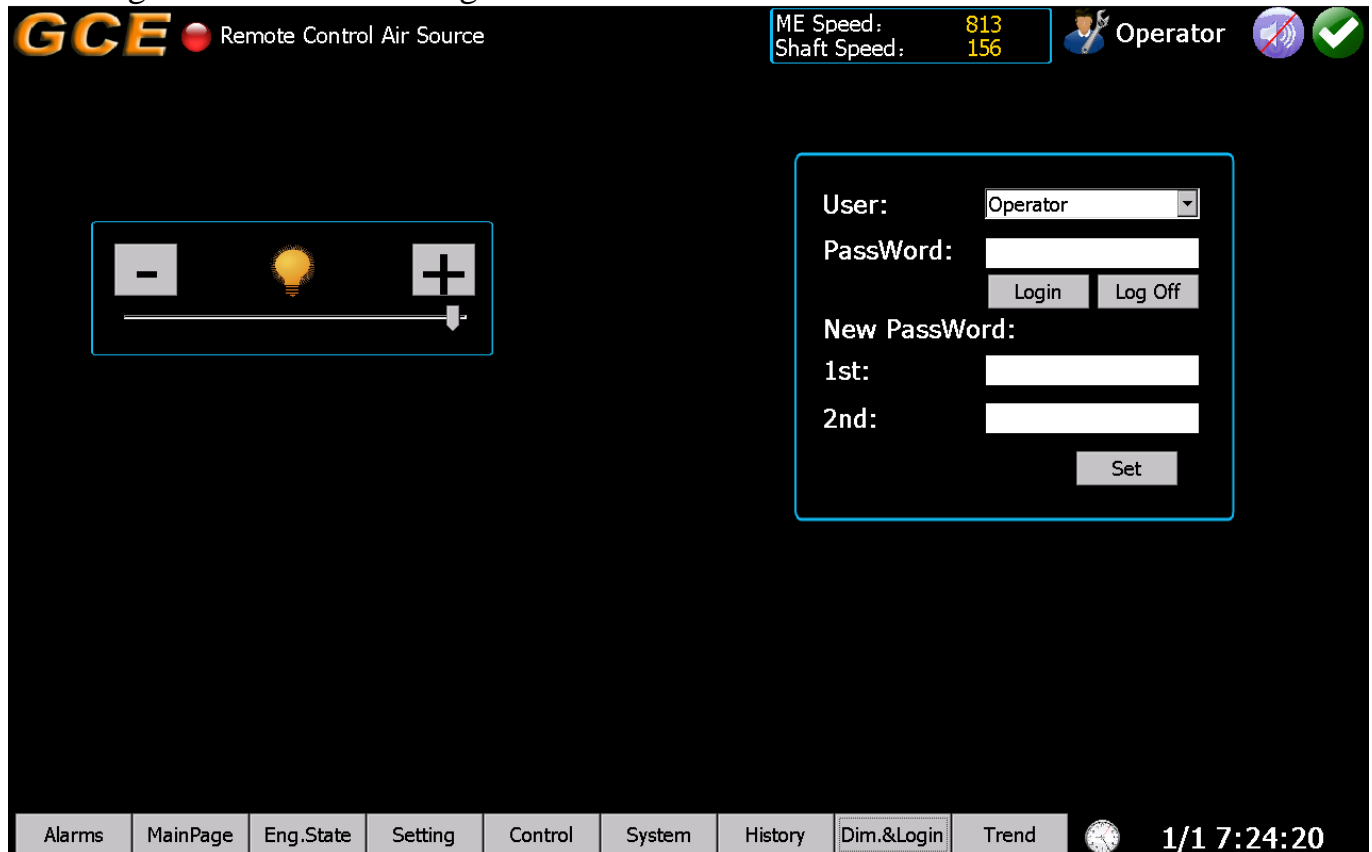
Center CAN1 Fail.
 Center CAN2 Fail.

Alarms MainPage Eng.State Setting Control System History Dim.&Login Trend

1/1 7:22:51

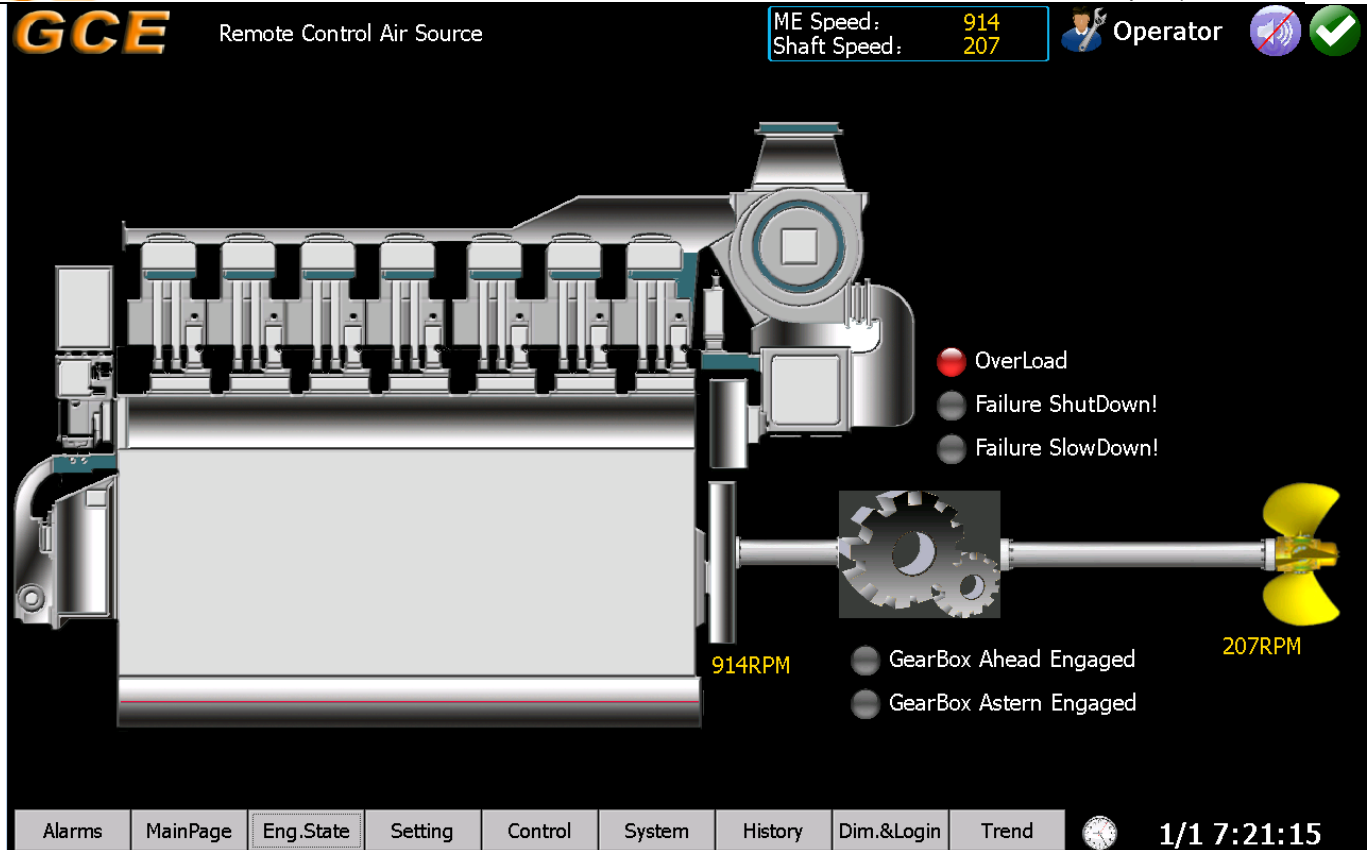
6.调光界面及用户登录

Dimming interface and user login



7.主机状态界面

Main engine state interface



8.历史曲线界面

History curve interface

