

China Classification Society (CCS) type approval
The European Union (EC) MED (B+D) recognition
DNV-GL type approval

Scs

STEERING CONTROL SYSTEM

HLD-SC 600/HLD-TCS 600





HLD- SC 600 Steering Control System is based on years of intensive research & development by Beijing Highlander Digital Technology Co.,Ltd..

The latest generation digital steering control system had been type approved by China Classification Society (CCS) and DNV-GL. Heading Control System is adaptive to different types of vessels and loading conditions. The precision control results in less rudder movements, not only reduces the wear and tear on machinery but also fuel .

【Features】

Wide range of applications

- Modular design, all modules are a standard size or a multiple of the standard size. Different combinations of modules can be used to meet different needs, such as low-end with the rudder, the high-end autopilot, single rudder blade system and dual rudder blade system.
- Provide automatic parts separately.
- Provide Steering Gear Pump Starter, Steering Gear Alarm and NFU Control Box, etc separately.
- Suitable for container ship, public service ship, large bulk cargo ship, offshore working tug, small fishing vessel, etc.

High reliability

Online self-monitoring technology detects system abnormalities at any time. Strict channel isolation technology ensures that the each channel is isolated.

High control accuracy & energy efficiency

Advanced control algorithms ensure follow-up control accuracy less than 0.3 degree, and better than 0.3 degree under the 3rd sea state under automatic control mode; also reduce the times of steering, avoid a large rudder angle, save fuel and reduce wear and tear on the steering system.

Friendly interface

Full-color& 7 inches touch screen with keyboard.

All-digital design

All-digital interfaces (IEC 61162-1), including the interface with the VDR; supports two heading source input.

Easy installation and maintenance

Original calibrated correction technology, simplifies Rudder Feedback Unit connecting rod installation.

Intelligent alarm system

100 records of history alarm.

Multiple automatic control functions

Including heading control, course control, track control.

Large data analysis

Heading records of 2 hours,which are helpful to steering.

Remote maintenance

Maintainable remotely together with HLD-VDR 600.



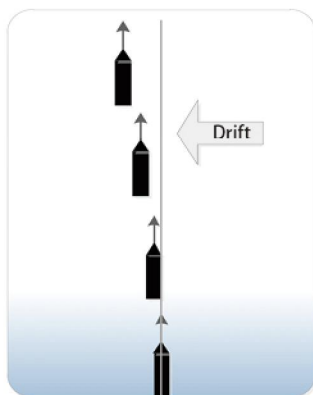
【Functions】

Functions	Characteristics
Non-Follow-up steering Control	Non-Follow-up Unit using solid and reliable handle, operating feeling good.
Follow-up steering Control	Helm wheel can be locked in everyone position, and the dial scale near zero degrees special has been amplified in order to precise steering.
Override	Support direct operate the Non- follow-up Unit to override control when on Automatic steering Control mode.
Automatic steering Control	Support the heading control, course control, track control.
Remote Control	Multiple remote control stations, select by Remote Control Link Unit.

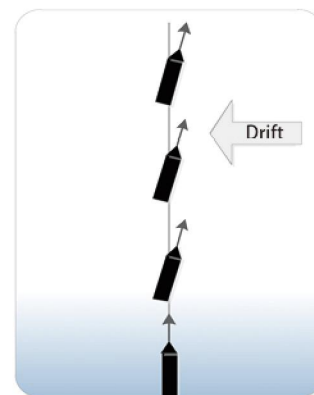


Automatic Control Unit

Heading control & Course control



Heading control



Course control

【Technical parameters】

Power Input	<ul style="list-style-type: none"> ● 220/380/440V AC ● 24V DC (18~36V DC) 	Signal Output	<ul style="list-style-type: none"> ● To Steering engine Contact output (110V DC ~ 0.5 A, 24V DC ~ 2.0 A) Voltage Output(+/-10 V DC ~ Max 5mA) ● To VDR NMEA-HTD, RSA, ALR ● Alarm Output OFF-heading Heading monitor Follow-up amplifying system failure System failure alarm Low speed Rudder limit Steering gear alarm unit (optional) ● Status Output Steering mode Override、 Heading、 Set heading、 Heading source、 Speed source、 ROT、 Rudder order, rudder, rudder Limit System status
Consumption	40W		
Temperature	<ul style="list-style-type: none"> ● Working -15°C ~55°C ● Storage -25°C ~70°C 		
Signal Input	<ul style="list-style-type: none"> ● Gyrocompass NMEA, HDT, THS ● Magnetic compass NMEA, HDT, HDG ● Speed Log NMEA, VTG, VHW, VBW 		
Regulations	<ul style="list-style-type: none"> ● ISO 11674 ● EN/IEC 62065 ● EN/IEC 61162-1 ● EN/IEC 60945 ● SO 16329 ● IEC61174 	Regulations	<ul style="list-style-type: none"> ● IEC 62288 ● A.342(IX) ● A.694(17) ● MSC.64(67)Annex3 ● CCS 《Steel ship class specification》 ● SC94

【HLD-TCS 600 Track Control System】

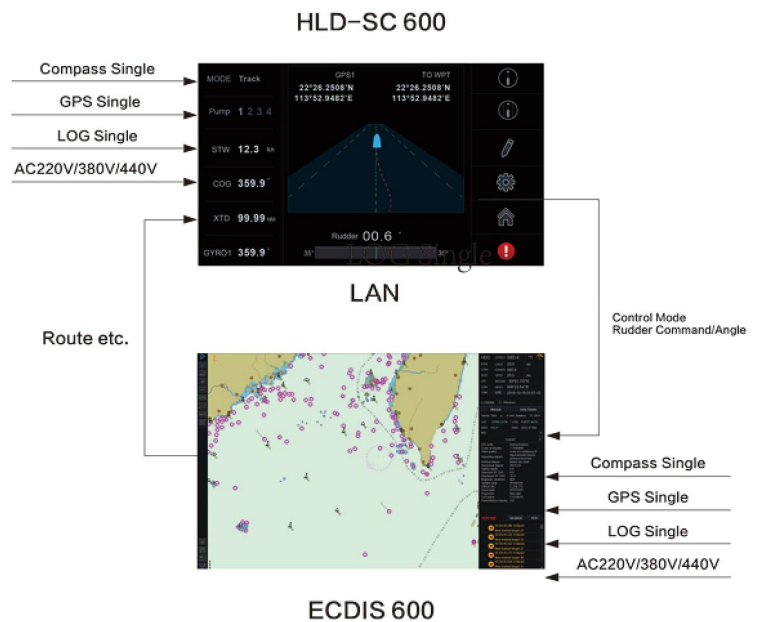
- ECDIS: HLD-ECDIS 600
- Steering Control System: HLD-SC 600

Functions :

- HLD-SC 600 system provides rhumb line sailing and great circle sailing mode, great circle sailing mode help ocean vessels to find the shortest route.
- HLD-SC 600 system provides route check function, the rationality, safety and operability of the planned route can be checked before execution.
- HLD-SC 600 system provides assisted turns between legs, the vessels can turn smoothly automatically according to the user' s turning set.

Track control system performance :

- Control performance: the cross-track error is less than 0.1 nm under the 3rd sea state.



[Product Configuration]

Standard

Manual steering system

- Steering Mode Switch HLD-SW 200
- Follow-up Unit HLD-FU 200
- Non-Follow-up Unit HLD-NFUV 200
- Rudder Feedback Unit HLD-RFU 600
- Steering Control Unit HLD-SCU 600

Alarm System

- Alarm Display Unit HLD-ADU 600

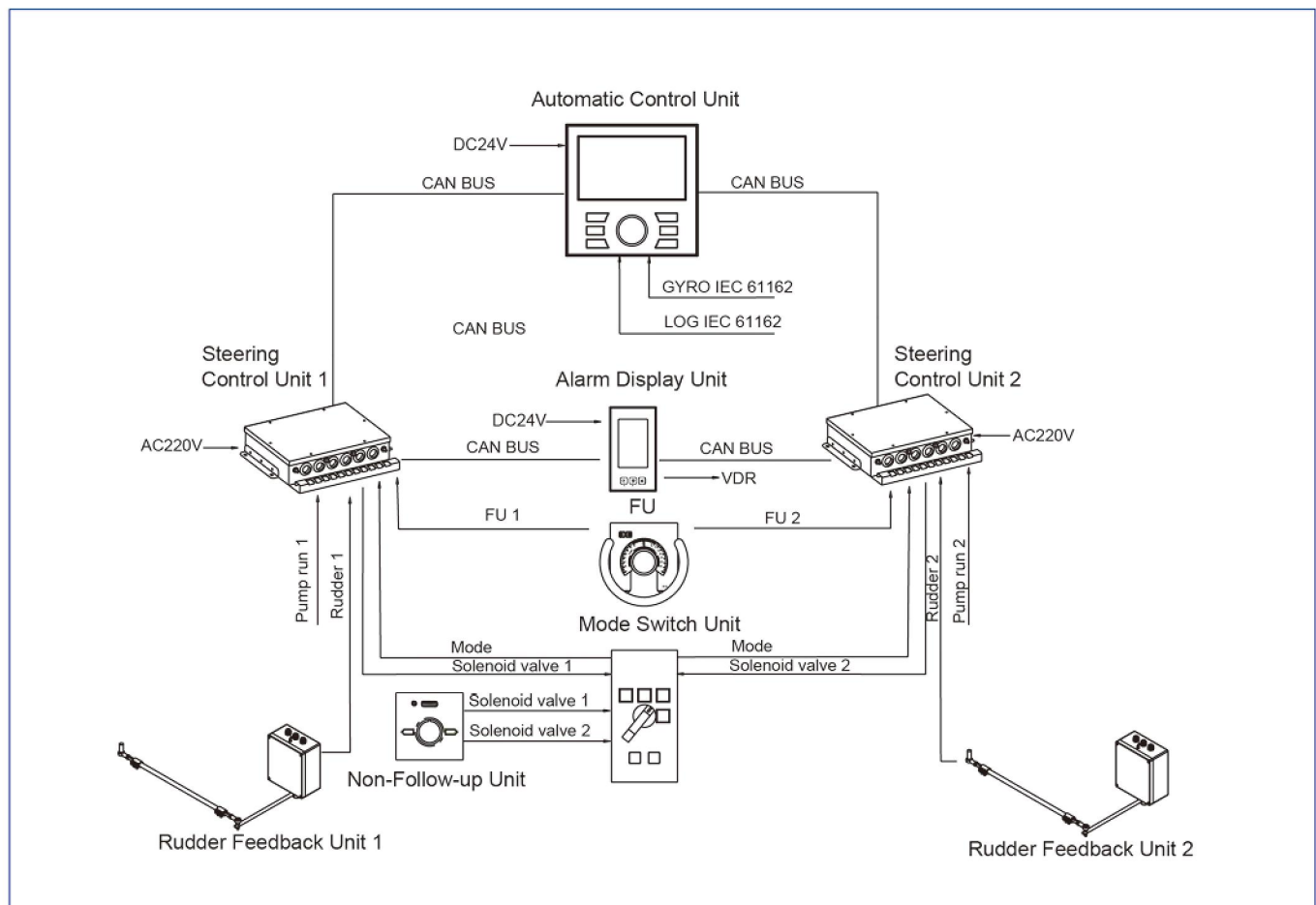
Automatic Steering System

- Automatic Control Unit HLD-ACU 600

Optional

- Relay HLD-RE 200
- Rudder Pump System Switch HLD-RPS 200
- Compass Repeater HLD-RP 200
- External Steering Interface Unit HLD-ESIU 600
- Remote Control Link Unit HLD-RRU 600
- Mini Follow-up Unit HLD-MFU 600
- Steering Gear Pump Starter HLD-SST 600
- Steering Gear Alarm & NFU Control Box HLD-SAC 600
- Steering Alarm Display Unit HLD-SADU 600
- Automated bridge console HLD-ST 200

[Typical Configuration:]

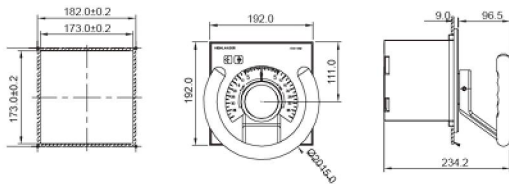


HLD-SC 600 Steering Control System

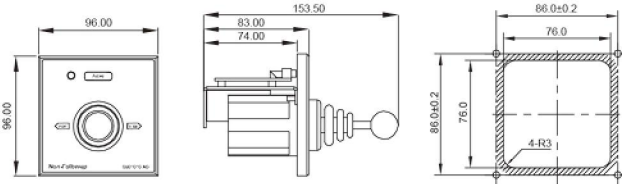
[Dimensional Drawings]

Manual System

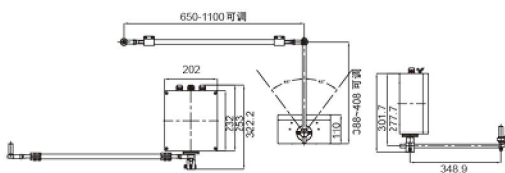
Follow-up Unit
HLD-FU200



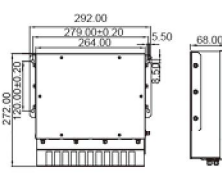
Non-Follow-up Unit
HLD-NFUV200



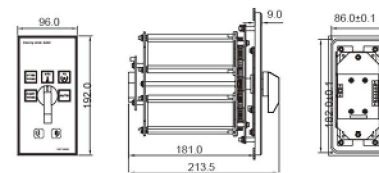
Rudder Feedback Unit
HLD-RFU600



Steering Control Unit
HLD-SCU600

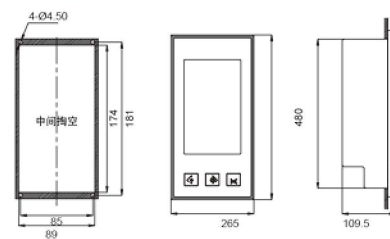


Steering Mode Switch
HLD-SW200



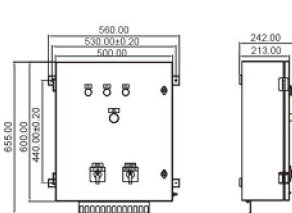
Alarm & Automatic Control

Alarm Display Unit
HLD-ADU600

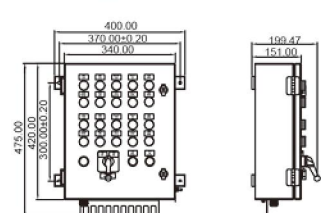


Optional Components

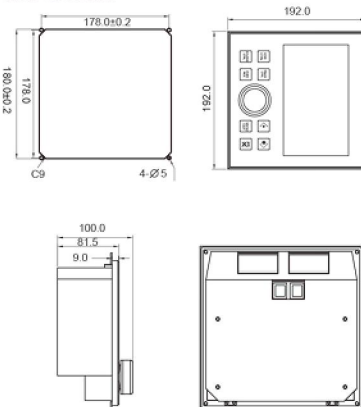
Steering Gear Pump Starter
HLD-SST600



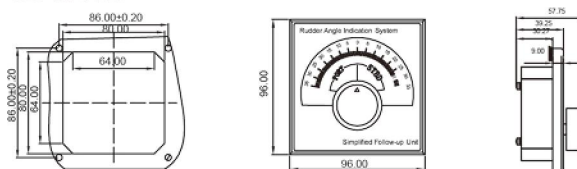
Steering Gear Alarm & NFU Control Box
HLD-SAC600



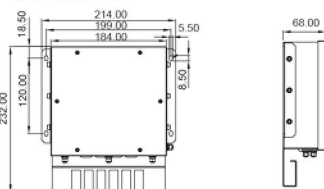
Automatic Control Unit
HLD-ACU600



Mini Follow-up Unit
HLD-MFU600



External Steering Interface Unit
HLD-ESIU600



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