

HIGHLANDER

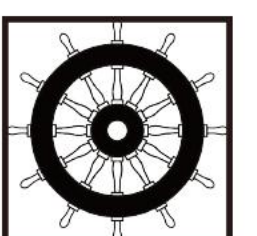
# ECDIS

HLD-ECDIS 600



## ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM

HLD-ECDIS 600 is fully developed by Highlander's own advanced technology. The product fully meets the requirements of IMO standards and the latest IEC standards, approved by CCS and the Norwegian classification society DNV-GL. A prototype of the system has undergone field validation in the market, ensuring convenient use, stable and reliable performance. The product supports Chinese/English switch, chart data update online, radar overlay, track control, etc. The system can be composed of a double workstation, and can also be used as a part of INS.



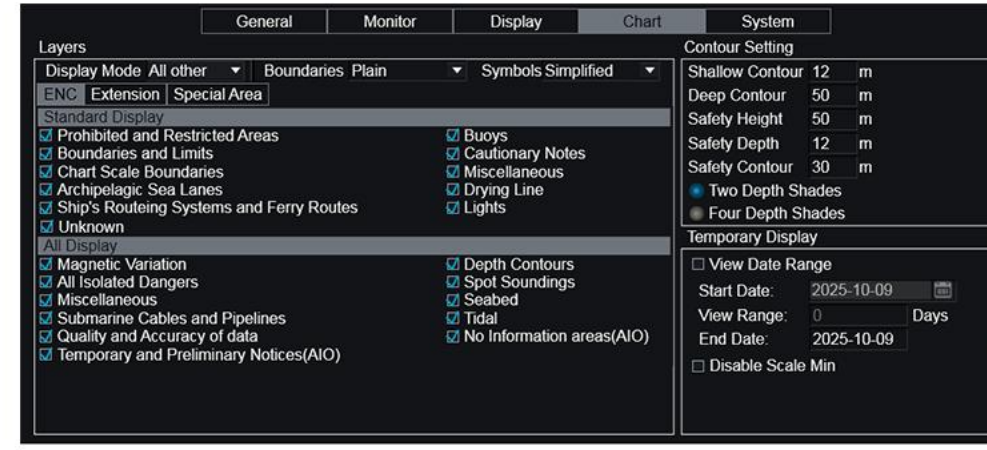
## » Features

### [Chinese/English switch]

It provides a Chinese/English switch function, and the Chinese interface is more user-friendly and intuitive for Chinese-speaking operators.



Chinese interface



English interface

### [Track control]

Track Control is available by connecting to Highlander's Steering Control System so that the sailor can focus on other tasks instead of frequent rudder adjustment.

### [ENC update on line]

ENC updates can be implemented not only locally, but also online, by accessing the data server at Highlander and downloading the latest update files.

### [Radar echo and ARPA overlay]

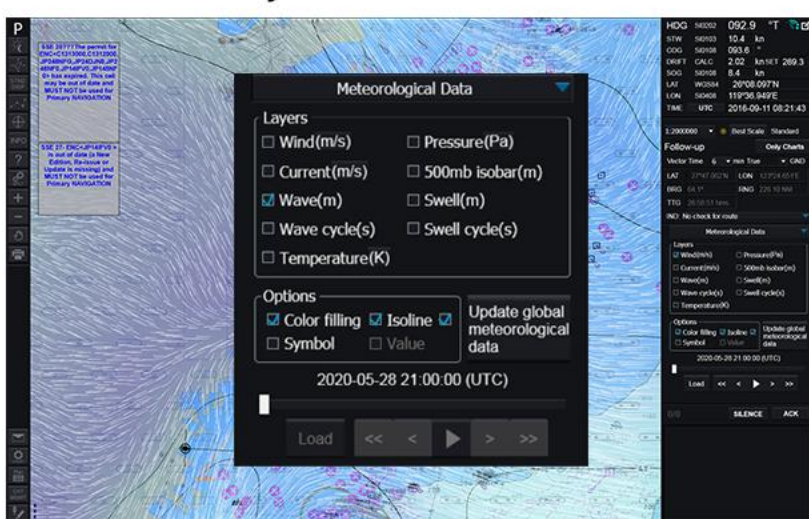
Highlander Radar overlay is supplied directly via LAN. For other manufacturers' radar, an Extractor Radar Acquisition PCI Board adapter is needed for echo overlay, and ARPA targets can be displayed on charts based on TTD or TTM sentences.

### [Weather routing]

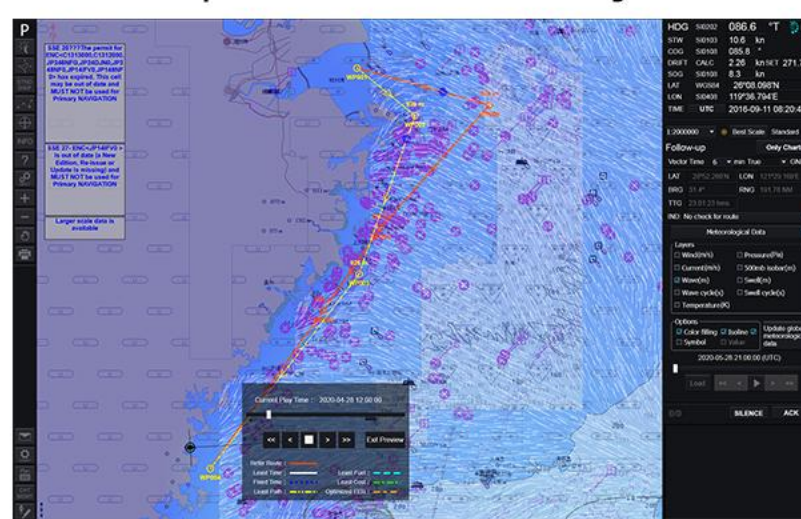
It provides weather data loading and display function, Route generation based on the departure port and destination, and route optimization based on weather data and optimization index (short time, short distance, or lower energy consumption), and can supply the weather forecast data of China and France to the shipowner, to assist the sailor in making navigational decisions.

### [NAVTEX management]

It receives and displays NAVTEX messages, and some filter criteria are available. For certain special NAVTEX messages, such as military exercise areas or wrecks, the exact position of the objects will be drawn on the charts.



Weather routing



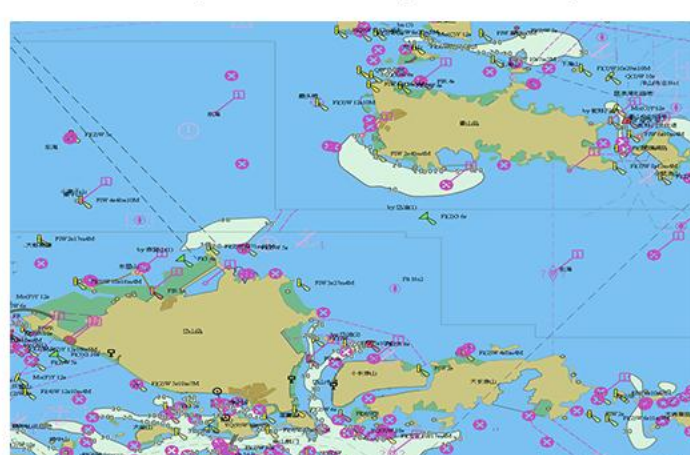
Route optimization



Radar overlay

### [Chart data display]

It supports IHO S-57, S-63 formats of electronic chart and supports Mercator Projection and Polar Stereographic Projection, meeting the display requirements for polar navigation areas at high latitudes above 85°. It can supply the ENC data of UKHO AVCS, PRIMAR, CNHO, China MSA, China CWB (Yangtze River), etc. to the shipowner, with global data coverage.



Mercator projection



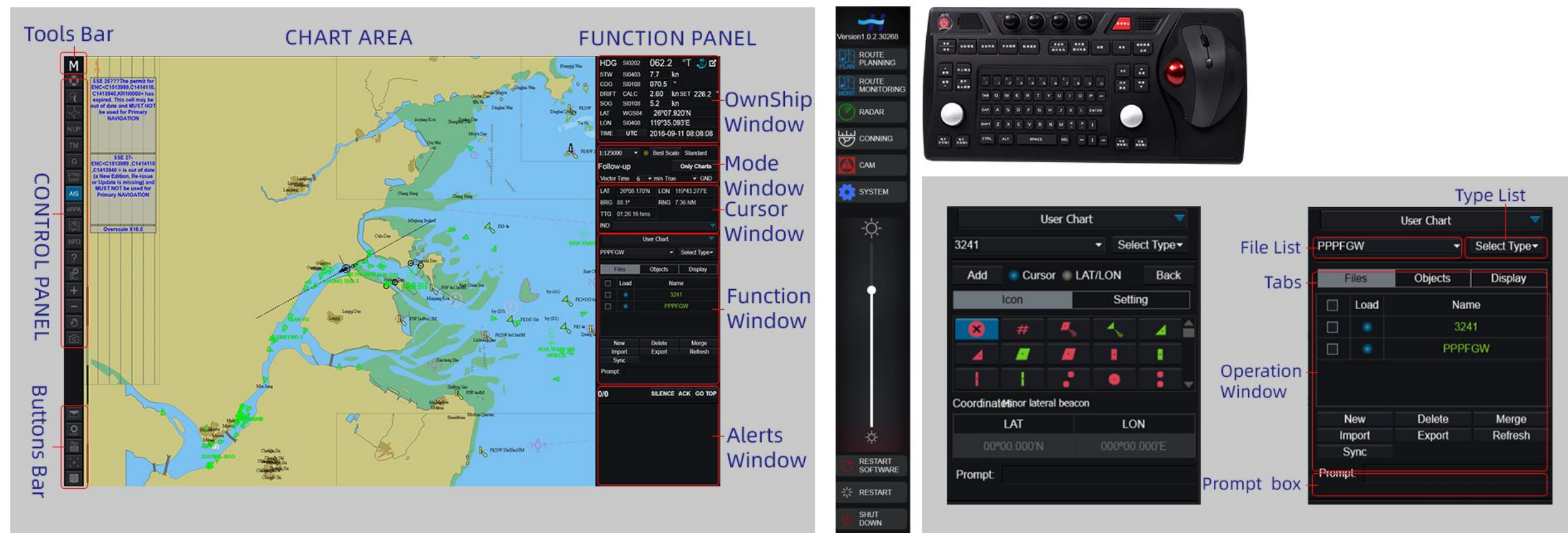
Polar projection



Chart data source

## [ Friendly interface ]

The integrated information display allows the user to conveniently observe and set control parameters at any time; it provides English/Chinese switching and supports 19", 23", 24" and 26" and other maritime-grade industrial LCD monitors.



## [ Good training system ]

To meet the requirements of the latest STCW convention, training is available at Highlander offices and authorized engineering agencies, and can also be conducted at the shipowner's authorized training center, or via Highlander's online education system (<http://ecdis600.highlander.com.cn/>).

## » Functions

### [ Basic functions ]

- **Chart showing:** Course up or North up; different layers showing the chart information.
- **Route Planning Task:** Ability to calculate the distance and bearing between any two waypoints, vessel position, track error, etc.
- **Chart Data Correction:** Accepts official chart data updates automatically or via user download, with manual correction.
- **Position Fix & Navigation:** Receives and processes navigational sensor data, providing consistent reference position, track, heading, speed, etc., with various land references for position fixing.
- **Voyage information acquisition:** obtains information including the description of objects and marine conditions, e.g., meteorological, tidal, and ocean current.
- **Radar overlaying:** Radar signals overlay on the chart display for navigation and collision avoidance functions. The correlation between moving and fixed targets enables the navigator to assess collision risk and make collision avoidance decisions as well as test trial maneuvers.
- **Route Monitoring:** Automatic calculation of ship offset from the current state and planned routes when sailing, alerting when necessary, and automatic detection of dangerous sea areas, reefs, etc., to facilitate collision avoidance and stranding prevention.
- **Voyage recording:** ECDIS records and plays back 24 hours of tracking information (including time, vessel location, heading, speed, chart source, version, and so on) every 15 minutes.



### [ Specific functions ]

- LOP data can be presented both alphanumerically and graphically
- BACK UP: two workstations provide mutual backup functionality
- MSI Maritime Safety Information overlay functions (NAVTEX/EGC)
- TCS track control (Optional)
- Conning integrated navigation information display system (Optional)
- RDS route decision support (Optional)

## » Parameter

### [System Technical parameter]

- **Product standards:** IMO MSC.232(82):2006, IEC 61174:2015
- **Display Unit:** a total of 7 models from 19 inch to 26 inch available
- **Operating system:** Windows 7 (EN)
- **Interface**  
Input: Serial or LAN – Own ship sensor data / ENC / PERMIT / CERTIFICATE / Charts UPDATE / External alerts  
Output: Serial or LAN – VDR / INS interface / TCS interface / BAMs
- **Power supply:** 115~230 VAC and 24 VDC input, 300 W
- **UPS:** 115~230 VAC input, 1 kVA
- **Working environment:** IEC 60945 standards
- **Temperature:** -15 °C to +55 °C

### [Process Unit]

- **Processor:** Intel® Core™
- **Internal storage:** DDR3, 8 GB
- **Storage:** SSD 250 GB
- **Size (L × W × H):** HLD-MCU770: 293 × 194 × 160 mm
- **Operating temperature:** -15~55 °C
- **Storage temperature:** -20~60 °C
- **Power:** 18~36 VDC input
- **Power dissipation:** <100 W
- **Compliant with:** IEC 60945
- **Weight (about):** HLD-MCU770: 5.6 kg

### [Interface Unit]

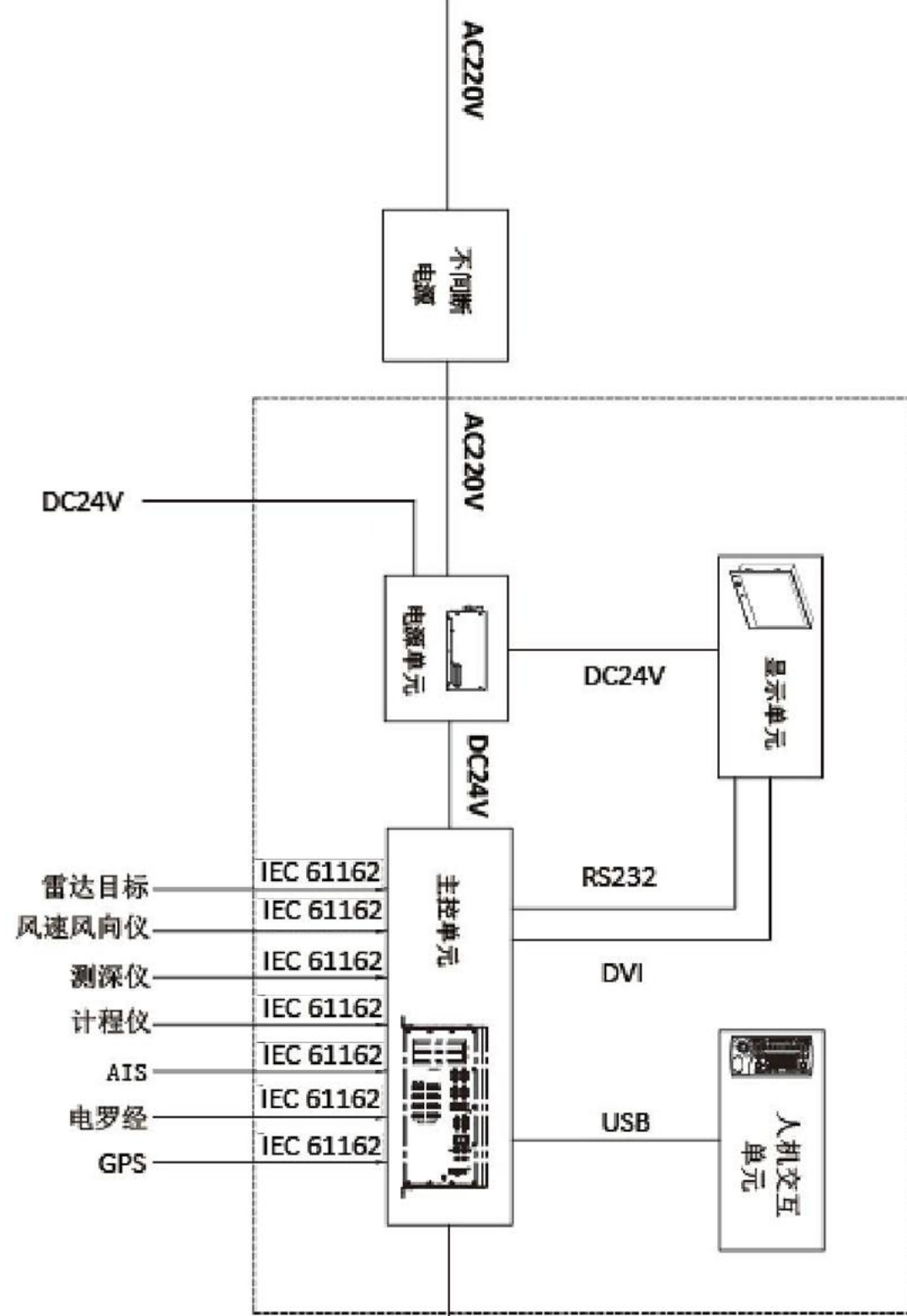
- **Power supply:** 5 V DC
- **Installation:** Desk mount / Embedded mount
- **Weight (about):** 1 kg
- **EMC/EMI:** IEC 60945

### [Display Unit Technical parameter]

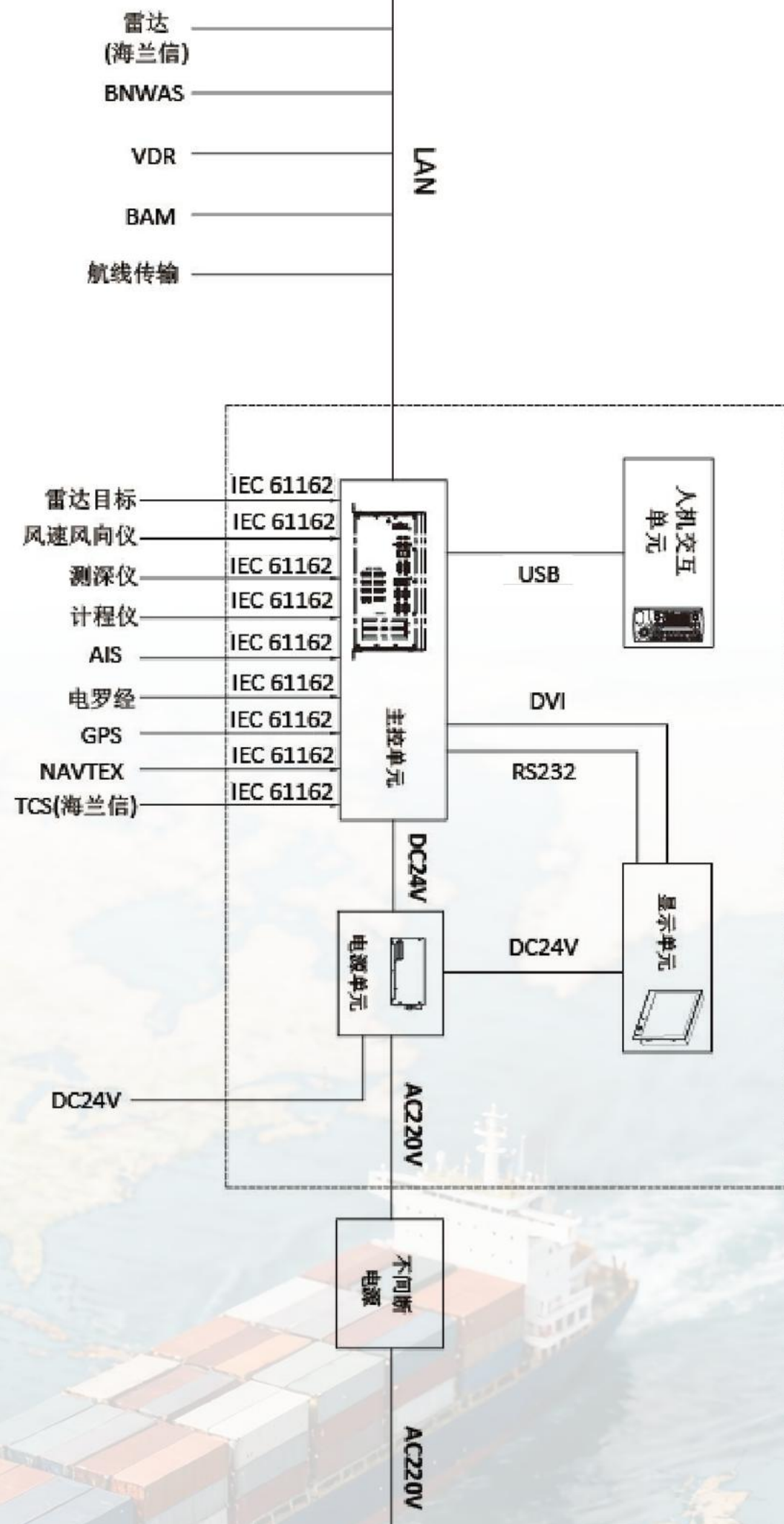
Model		HLD-DU163	HLD-DU165	HLD-DU134	HLD-DU138
Type Approval		CCS	CCS	DNV-GL	DNV-GL
Display Unit	Size	24"	27"	24"	27"
	Resolution	1920×1080	1920×1080	1920×1080	1920×1080
	Dimension	593×384×69.5	429×382×74.5	593×384×70	650×437×69.5
	Weight(kg)	10.35	7.8	9.1	11
Signal Input		DVI-I/VGA			
Environment	Temperature	-15~55°C			
	Relative Humidity	10%~90%		0~95%	
	IP	IP66(Front) IP22(Behind)			
Power Supply		115 & 230V AC and 24V DC			

# Configuration

计划工作站



监控工作站

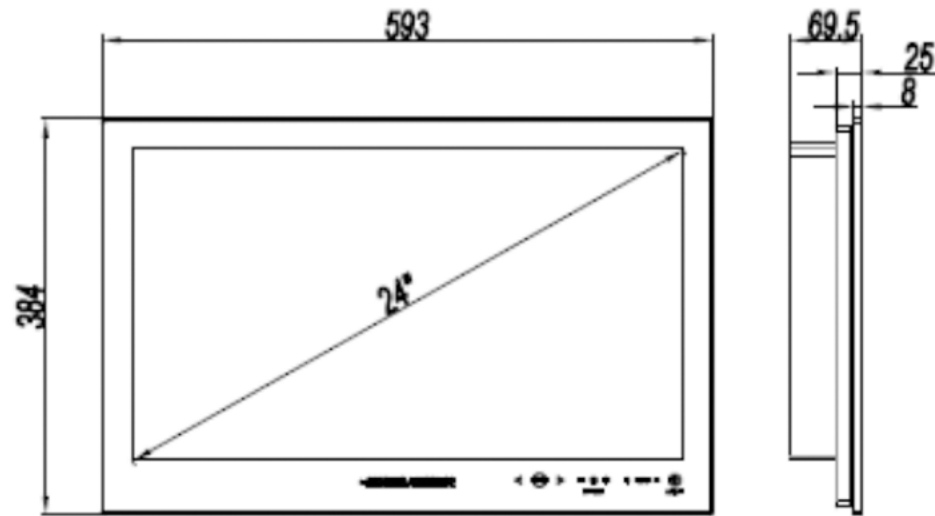


Standard Configuration	
1	Main Control Unit HLD-MCU 770
2	Display Unit (24") HLD-DU 134
3	Interactive Unit HLD-IU 600
4	Certificate ECDIS 600 (M)
5	Documents
6	Power Supply Unit HLD-PCU 600
7	Chart data:USB drive

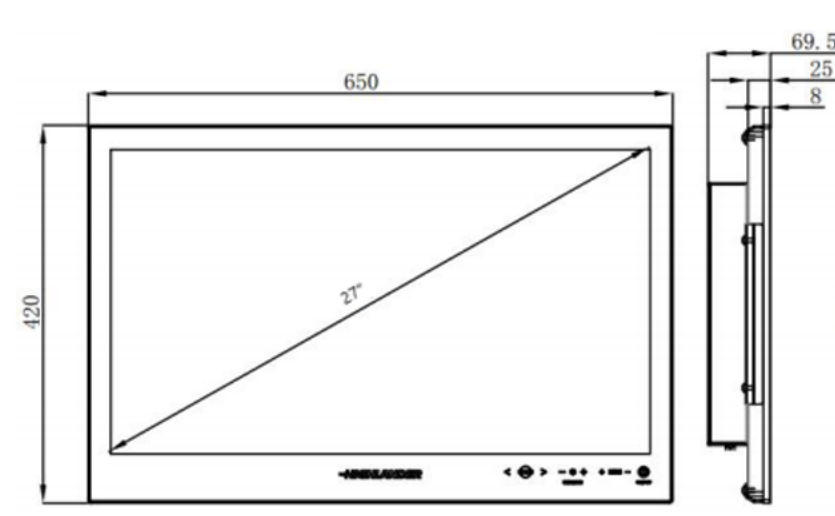
Optional			
1	Qin Desktop Stand HLD-SM 200	5	U disk with chart Data
2	Desk Bracket HLD-DM 200	6	VDR interface (only HLD-VDR 600 no need)
3	Serial data Service HLD-SPS 100	7	UPS Power
4	Display Unit HLD-DU162 19"	8	Radar image card
	HLD-DU163 24"	9	TCS interface
	HLD-DU165 27"	10	Internet switch
	HLD-DU134 24"		
	HLD-DU138 27"		

## » Dimensional Drawings

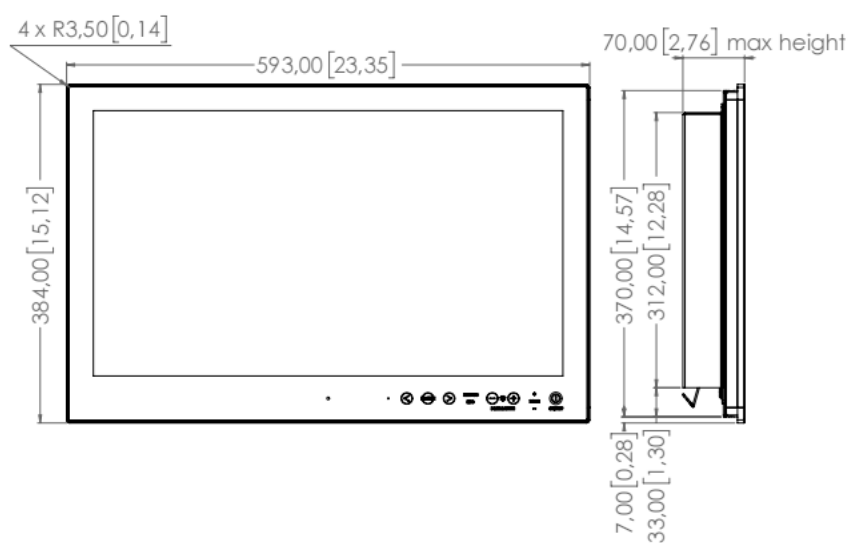
**[Display Unit HLD-DU163 24"] 8.7kg**



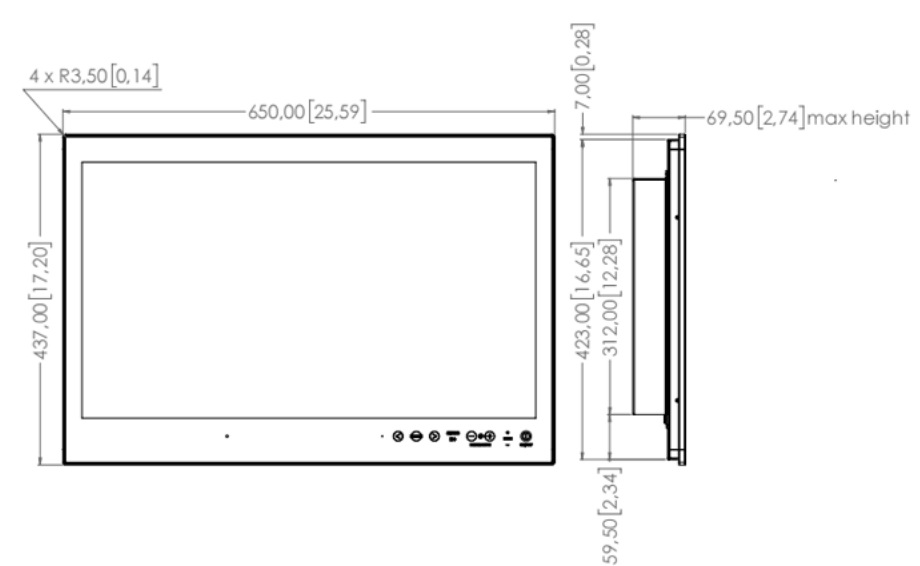
**[Display Unit 24" HLD-DU165 27"] 9.8kg**



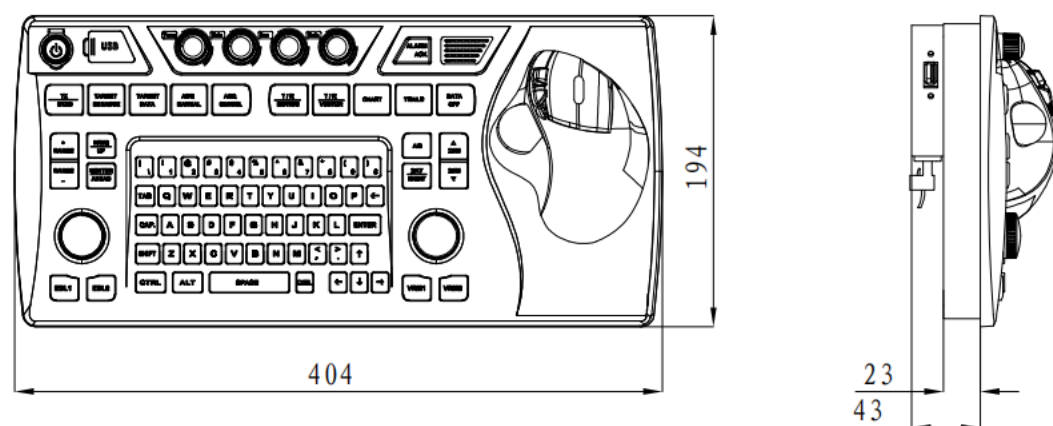
**[Display Unit HLD-DU134 24"] 10.7kg**



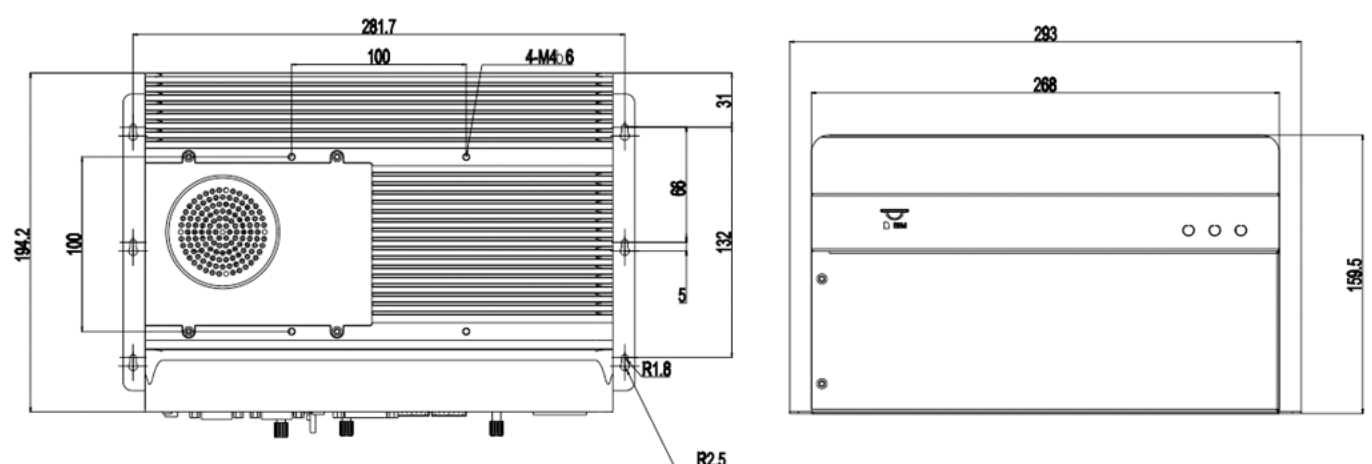
**[Display Unit HLD-DU138 27"] 11kg**



**[Human Interface Unit HLD-IU600] 1.0kg**



**[Processor HLD-MCU770] 5.6kg**



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