

Equipment dimensions

27 inch stand (Option)
Mass:60kg (Except units)

19 inch stand (Option)
Mass:55kg (Except units)

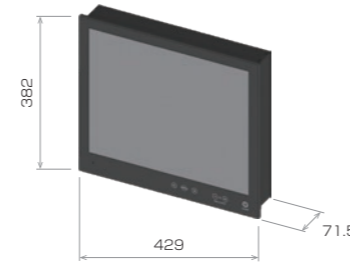
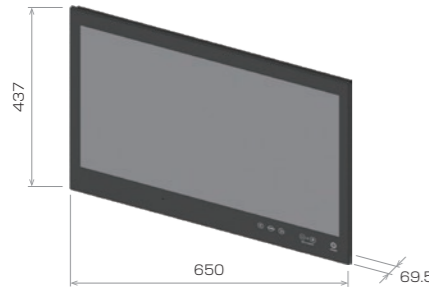
(Unit:mm)



27 inch display unit
Mass:11kg

24 inch display unit
Mass:9.1kg

19 inch display unit
Mass:8.1kg



Alarm Unit
Mass:0.6kg

Control Unit
Mass:11kg

IF Unit
Mass:3kg



Design and specifications are subject to change without prior notice, and without any obligation on the part of the manufacturer.

CAUTION Before operating this equipment, you should first thoroughly read the operator's manual.

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April 2022 Cat.No.1540-1-E-1-H

TOKYO KEIKI

Mackay MARINE
www.mackaymarine.com

Electronic Chart Display and Information System

ECDIS
EC-9000



TOKYO KEIKI INC.

ECDIS gets closer to you.

Smart, safe navigation for modern vessels.

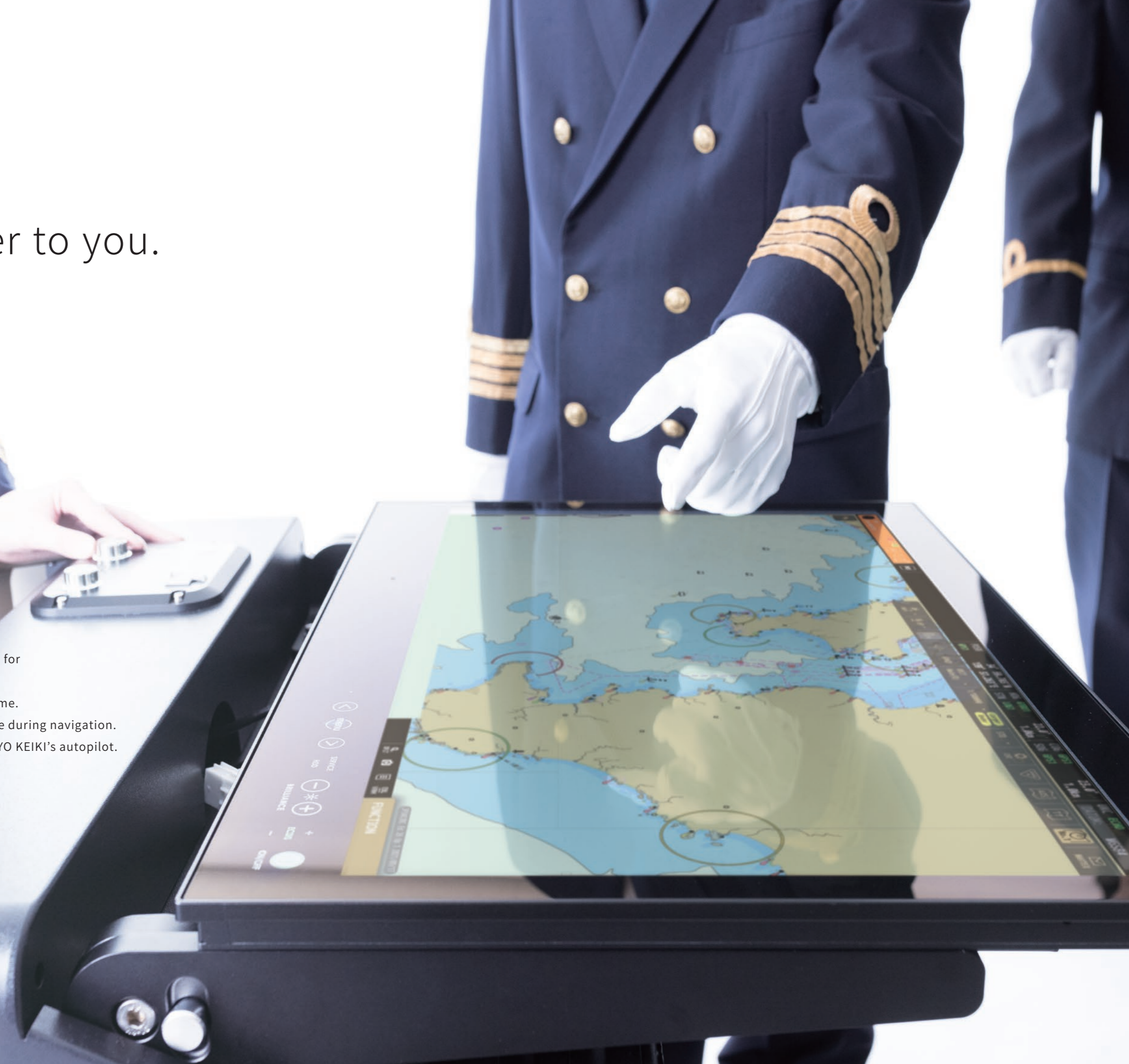
Large touch screen display and highly visible icons for intuitive and stress-free operation.

Built-in ECDIS tutorial system for training at any time.

On-board unit replacement for near-zero downtime during navigation.

Energy-saving operation in combination with TOKYO KEIKI's autopilot.

The ECDIS EC-9000 series, which has diligently pursued usability and maintainability, sets a new standard for navigation instruments.



Three concepts are paving the way for navigation instruments.



TOKYO KEIKI, a company that has built a track record of achievements and trust through more than 20 years of research and development of Electronic Chart Display and Information Systems, presents the new ECDIS EC 9000 series. In addition to conforming to the latest international rules, usability and maintainability have been dramatically improved through a design based on three concepts unique to TOKYO KEIKI, a company that knows navigation instruments inside and out. Designed with the users' point of view in mind, it is packed with ideas and functions that support modern navigation, which requires safety, security, and further streamlining.

■ Easy to use/ Easy to understand

Adopts a new GUI which supports easy use and easy understanding via the use of optimized icon application based on the feedback of our customers. S Mode Icon is also supported.

■ High speed display of Chart objects

After the revision of the S-52 Standard, there were cases where the chart drawing was sluggish in some sea areas. However, TOKYO KEIKI ECDIS comes equipped with high-speed drawing capability which allows for a clear display in all sea areas from both soft and hard aspects.

■ Update Software can be downloaded at anytime from the TOKYO KEIKI homepage

When in possession of a USER code during the time of purchasing an ECDIS, Software updates can be downloaded from the TOKYO KEIKI home page at anytime.

■ TCS and Backup ECDIS are also easily implemented.

TCS with TOKYO KEIKI Autopilot (PR- 9000/PR- 6000) and Backup with ECDIS (EC- 8600 Series).

■ Simple ECDIS retrofitting solution

Just by using the TOUCH PANEL, un-needed operational parts are eliminated, and new units are small and compact in design which well support all retrofit needs.

CONCEPT

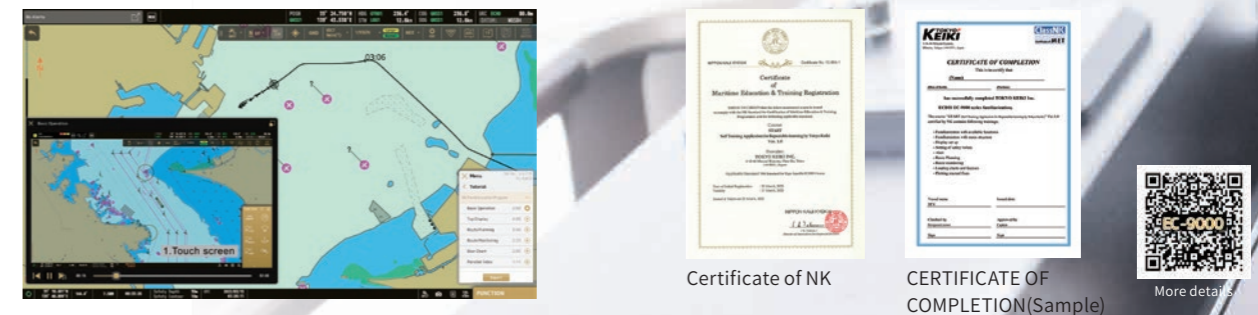
1 Simple operation via Multifunction touch screen

A New Touch Panel LCD is used allowing for easy SMART PHONE style operation. Based on user research, frequently used actions are displayed as icons on the top screen, allowing you to perform the desired actions in the shortest time possible. Touch Panel can be laid flat so that multiple crew members may operate simultaneously.



2 Familiarization Training via built in Tutorial Function

The EC-9000 series has a built-in TUTORIAL function. Important operations can be studied via a tutorial video on the ECDIS itself. The Video viewing history is logged and can be used as a certificate supporting the crew's knowledge and proficiency. (Certified by NK)



3 Easy onboard maintenance

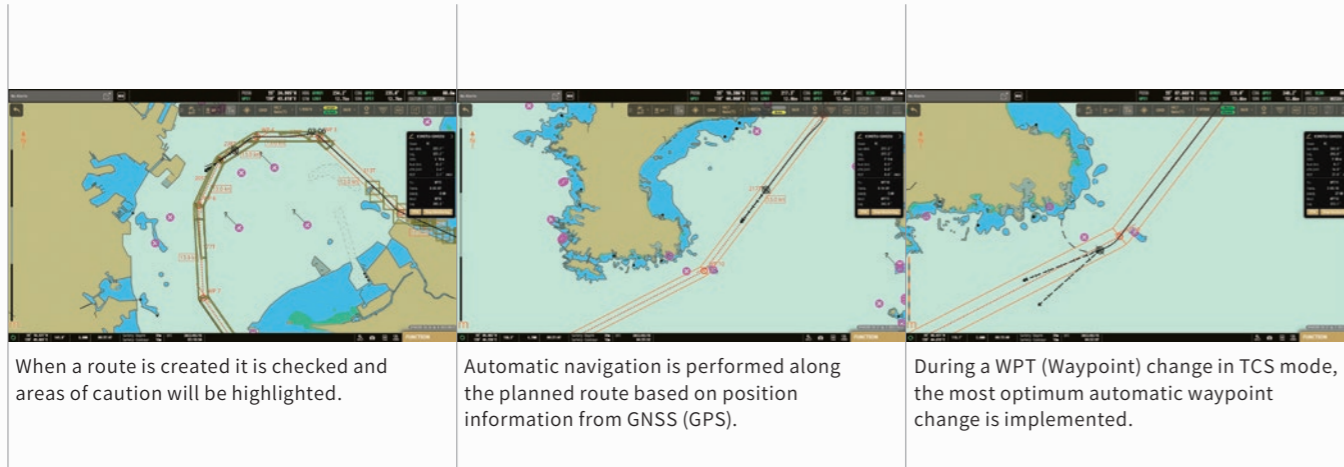
Main parts can be easily replaced without any special tools by the ship's crew. Since the system can be resotored WITHOUT an Engineer's attendance, even when a fault may arise, TOKYO KEIKI's ECDIS can be understood as a ZERO down time FULL ECDIS solution. A parts replacement procedure video is supplied. Also a spare SSD is included in the standard scope of supply.



SYSTEM

Track Control System (TCS), Energy/Fuel Saving

When combined with TOKYO KEIKI's Autopilot PR-9000/6000 (HCS), high grade TRACK CONTROL (Automatic Navigation) is possible. By performing tracking on a preplanned route, not only is course deviation lessened but the fuel usage is also reduced.

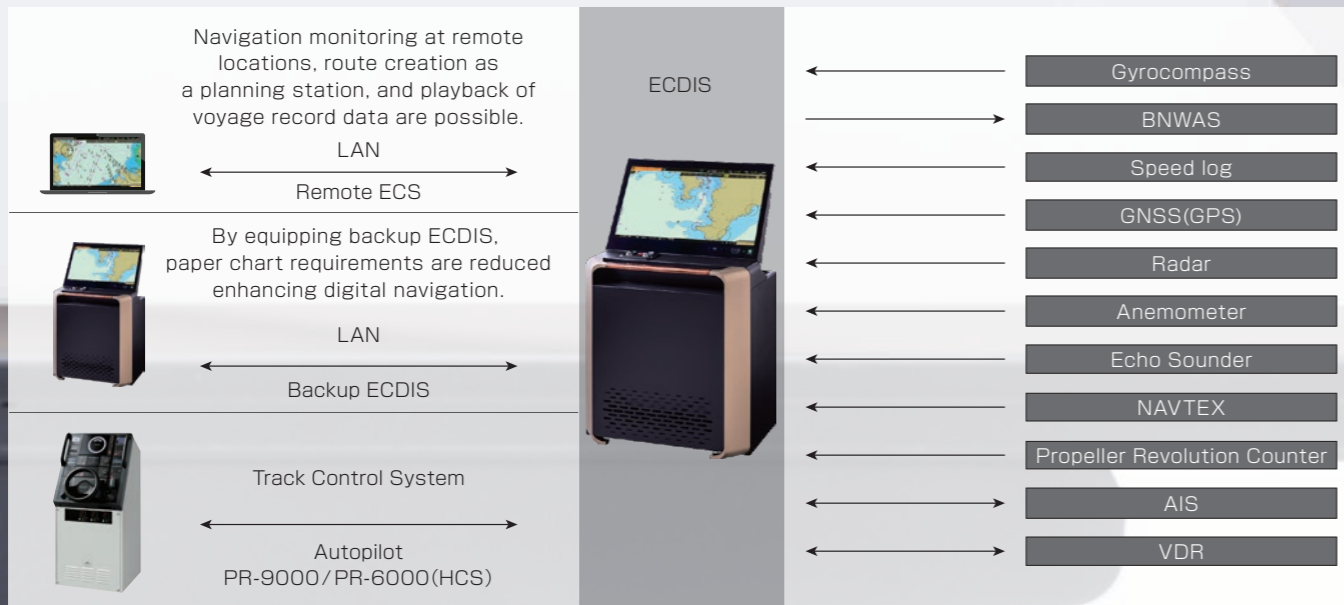


Remote ECDIS Planning Station (ECS)

It is possible to monitor navigation at remote locations, create routes at a planning station, and playback the navigation record data. The created route can be outputted externally allowing for the sharing of information between the ship and land, and it contributes to the prevention of marine accidents.



Configuration



Specification

(1) Display

- LCD
 - 19 inch (EC-9019)
 - 24 inch (EC-9024, unit type)
 - 27 inch (EC-9027)
- TFT color LCD panel with Touch Screen
- Effective display range
 - 376×301mm (EC-9019)
 - 531×299mm (EC-9024)
 - 598×336mm (EC-9027)
- Resolution
 - SXGA (1280×1024pixels EC-9019)
 - FHD (1920×1080pixels EC-9024 / EC-9027)
- Display
 - TFT Active Matrix model
- Display colors
 - Max.16.7million colors
- Method of Touch Screen
 - Projected Capacitive Touch Screen

(2) Display mode

North Up, Course Up, Route Up, True motion and Relative motion

(3) Function

Chart display, Ship position fixing, Target positioning measurement, Route planning, Route monitoring, Navigation record for 100 days, User Chart, Radar overlay, Tracked target information display, AIS target information display, System self-diagnosis, Electronic operator's manual, Tutorial video

(Option)

Track Control(TCS), Slave display, Remote ECS
Back-up ECDIS connection

(4) External input /output signals

<Input>

- GNSS(GPS)
 - IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
 - GNS,GGA,RMC,GLL,VTG,ZDA,DTM
- Gyrocompass
 - IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
 - HDT,ROT,THS
- Speed Log
 - IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
 - VBW,VLW
- Echo Sounder
 - IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
 - DPT,DBT

■ Anemometer

IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
MWV,MWD

■ Tracked target

IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
TTM,RSD,OSD,TTD,TLB
IEC 62388 Ed.2

■ Radar

Video,Trigger,Antenna rotation,and
Heading signals

■ NAVTEX

IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
NRX,ALR

■ Propeller revolution

IEC 61162-1 Ed.1,Ed.2,Ed.3,Ed.4 and Ed.5
RPM

<Input/Output>

■ AIS

IEC 61162-2 VDM,VDO

■ Autopilot (HCS)

IEC 61162-1,2 (Input) HTC,ZDA etc. (Output) HTD,RSA,ALR

■ Bridge Alert Management System

IEC 62923-1,2 ACN,ALC,ALF,ARC

■ VDR

IEC 61162-450 Ed.2

<Output>

■ Backup ECDIS

Route file ,User Chart, System data etc

■ Remote ECS

Route file ,User Chart, System data etc

■ Slave display

HDMI video distributor (up to 8 displays)

■ BNWAS

Contact signal and serial signal

■ Backup navigator alarm (for TCS)

Contact signal

(5) Power

100/110/115/220VAC Single phase, 50/60Hz 320VA(Max)
24VDC 280W(Max)

(6) Operating Environment

Temperature 0~+45°C
Humidity 30%~90% RH(35°C)
Vibration IEC 60945 Ed.4 Protected type

(7) Display Chart

ENC(IHO S-57 Ed.3.1)、ARCS (software update is required)