

XINUO



XN60 Series Touch Screen Multi-function Display

Quick Reference V1.5

Instructions

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Warning. Please read through the cautions of the manual to understand the product's cautions and other more important information.

The device is not used for navigating directly.

When use the device, please refer to other available navigation sources, including the information from other navigation aids and actual sea conditions, such as, official chart, visual sightings, radar, tides, hydrology, weather and so on.

Statements. Other products and company names involved in this manual are only for identification. Those names may be registered trademarks owned by other company. Version information is displayed in the system only and will not be described in details in this manual. "XINUO" and "XINUO TECH" mentioned in this manual all refers to "Xinuo Information Technology (Xiamen) Corporation Limited".

This manual is only for reference, the detail operations should depend on device. It applies to the following models.

☐ XN60(10.1") ☐ XN60(12.1") ☐ XN60(15.6") ☐ XN60(21.5")

Notes.

Before turn on this device, please be sure to read the following precautions to avoid product failure caused by improper operation.

1. Firmly installation of the device is necessary to avoid damage caused by falling down.
2. Please do not use this product without original power adapters. Otherwise, the navigator may not work properly or the performance might be affected or even the device will be damaged because of the circuit designs.
3. Please do not disassemble the device by any means or no warranty will be extended.
4. When using or cleaning, be sure to avoid any liquid or other objects falling into the device as this might cause damage or short circuit.
5. Please do not place the device and its accessories in a damp environment or under the direct sunlight. Keep the device in the dry environment.
6. Power supply should be grounded to avoid static and lightning. If the device is not in use, please turn off the device.
7. If the device cannot position for a long time, please check the following, whether the antenna is installed properly, the connection, any forms of interference around the antenna. Before starting of the device, please make sure the antenna cable joints are intact; there is no short-circuit or open circuit; and follow the correct antenna installation procedure. During the start-up stage, please do not arbitrarily remove the antenna in order to avoid damages to the device.
8. When external temperature is too high, the device may not function properly. Stop using the device until the temperature returns to normal and restart the device.
9. Avoid direct sunlight on the LCD screen. You can adjust the angle of the screen anytime to get the best visual effects.
10. When hardware failure occurs (for example, power lines are burned, machine is damaged or foreign bodies fall into the device, etc.), please shut down the power and contact with the distributor immediately.
11. Virtually, all data sources might contain some inaccurate or incomplete data. The data is only for your reference and we cannot guarantee any accident, injury or proper damage. All legal responsibility and other obligation will not be taken by XINUO.

Catalog

1	Product Introduction.....	1
2	Standard Configuration.....	1
3	Interface Definition.....	3
4	Installation Instruction.....	7
4-1	Installation of GNSS antenna.....	7
4-2	Installation of VHF antenna.....	8
4-2-1	Horizontal Installation.....	8
4-2-2	Vertical Installation.....	5
4-3	Equipment Installation.....	9
5	Key Definition.....	12
5-1	XN60(10.1") Key Definition.....	12
5-2	XN60(12.1"&15.6") Key Definition.....	13
5-3	XN60(21.5") Key Definition.....	14
6	Operating Instruction.....	15
6-1	Network Connection.....	15
6-2	User Register/Login.....	15
6-2-1	Register.....	15
6-2-2	Login.....	15
6-2-3	Forget Password.....	15
6-3	Dual Chart System.....	15
6-3-1	Display setting.....	16
6-4	Track Operation.....	19
6-4-1	Track Record.....	19
6-4-2	Track Color Switch.....	20
6-4-3	Track Deletion.....	20
6-4-4	Track Batch Edit, Deletion.....	20
6-5	Navigation Data Operation.....	21
6-5-1	Navigation Data Creation.....	21
6-5-2	Navigation Data Deletion.....	21
6-5-3	Navigation Data Batch Edit, Deletion.....	21
6-6	Navigation Operation.....	22
6-6-1	Call Navigation Data/MOB To Navigation.....	22
6-6-2	Call History Navigation Data.....	22

6-7 Plot Data Operation.....	22
6-7-1 Plot Data Creation.....	22
6-7-2 Plot Data Deletion.....	23
6-7-3 Plot Data Batch Edit, Deletion.....	23
6-8 AIS Operation.....	23
6-8-1 AIS List.....	23
6-8-2 AIS Radar.....	23
6-8-3 Ship Parameters.....	24
6-8-4 Group Management.....	24
6-8-5 Safety Information.....	25
6-8-6 Message.....	25
6-9 Video Surveillance (Optional).....	25
6-9-1 Installation Connection Diagram.....	26
6-9-2 Video Input Screen.....	26
6-9-3 Operation Menu.....	27
6-10 Fishing Logs (Optional).....	29
6-11 Volume/Brightness Adjustment	29
7 Update Instruction.....	30
7-1 Update Online.....	30
7-2 Local TF card/U disk upgrade.....	30
7-2-1 Format the TF card /USB to FAT32 format.....	30
7-2-2 Update File Download.....	30
7-2-3 Update.....	30
8 Hardware Configuration.....	31

1 Product Introduction

The XN60 series products provide an intelligent system and multi task running marine equipment networking solution. The touch screen is flexible and easy to use, with clear picture, superior performance and strong sense of control. The system integrates functional modules such as GNSS, chart plotter, Class B AIS, CCTV and realizes multiple cloud services such as online upgrades and online weather through multiple networking methods, such as WIFI, Cellular mobile network, Ethernet and Bluetooth.

2 Standard Configuration

(1) XN60(10.1", 12.1", 15.6") Standard Configuration

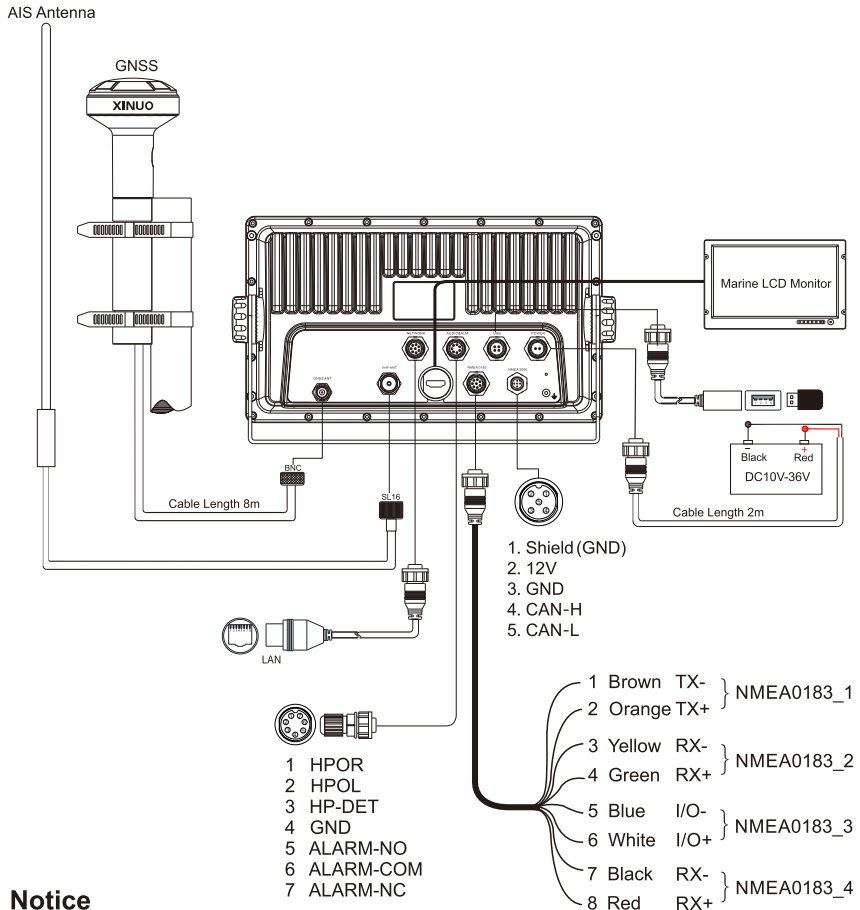
ID	Name of Item	Quantity
1	Display	1
2	Mount Bracket(Stander)	1
3	2-pin Power Cord(2m)	1
4	8-pin NMEA0183 connect cable(1.2m)	1
5	Waterproof 7-pin connector (Connect to AUDIO&ALM interface of MFD)	1
6	Adapter for USB connector	1
7	Adapter for Ethernet connector	1
8	GNSS Antenna	1
9	Sun Cover(10.1")	1
10	M8 Fixed Knob	2
11	Rubber Gasket of M8 Fixed Knob	2
12	Screw(M4*12mm)	4
13	Self-tapping screw	4
14	HDMI connector cap	1
15	NMEA2000 connector cap	1
16	AIS connector cap	1
17	Product Manual (Quick Reference)	1

(2) XN60(21.5") Standard Configuration

ID	Name of Item	Quantity
1	Display	1
2	Flush Mount Bracket	2
3	Mount Bracket(Stander)	1
4	Triangular mounting plate	2
5	2-pin Power Cord(2m)	1
6	6-pin NMEA0183 connect cable(1.2m)	1
7	8-pin NMEA0183 connect cable(1.2m)	1
8	7-pin connector (Connect to AUDIO&ALM interface of MFD)	1
9	Adapter for USB connector	1
10	Adapter for Ethernet connector	1
11	GNSS Antenna	1
12	M6 Fixed Knob	2
13	M8 Fixed Knob	2
14	Rubber Gasket of M6 Fixed Knob	4
15	Rubber Gasket of M8 Fixed Knob	4
16	Screw(M6*30mm)	4
17	Nut(M6)	4
18	Screw(M3)	12
19	Screw(M6*20mm)	4
20	HDMI connector cap	1
21	NMEA2000 connector cap	1
22	AIS connector cap	1
23	Product Manual (Quick Reference)	1

3 Interface Definition

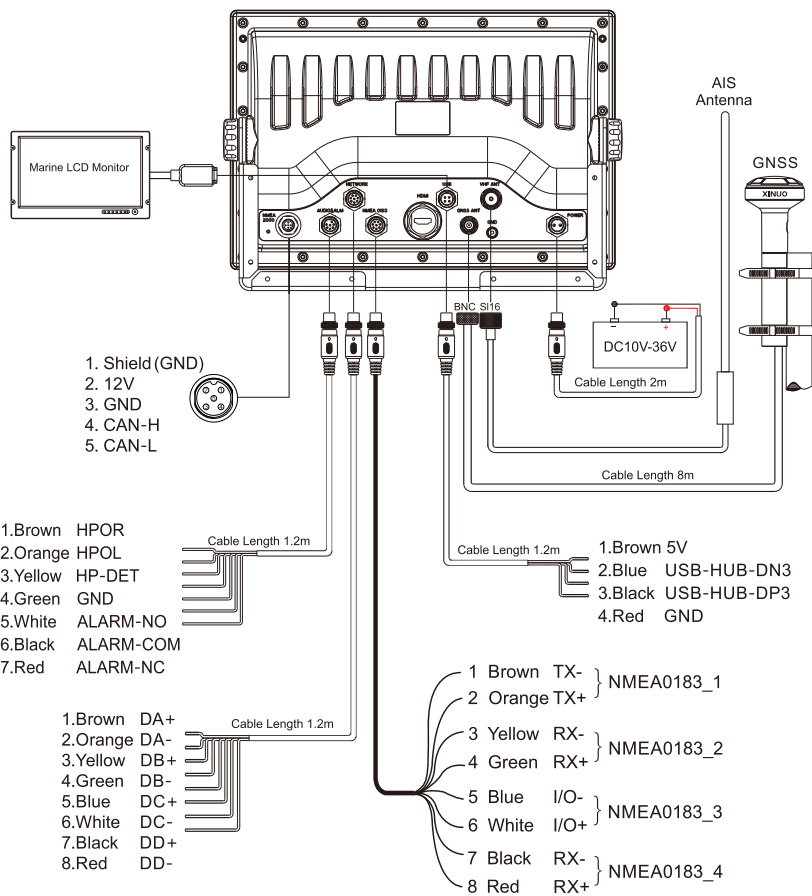
(1) XN60(10.1") Interface Definition



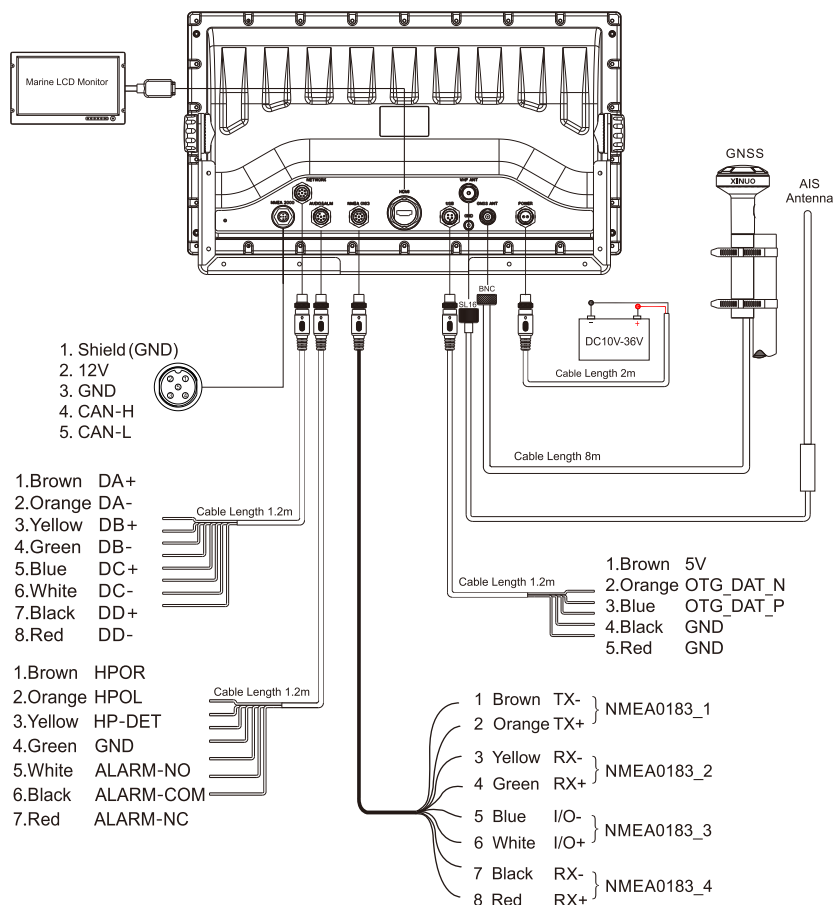
Notice

- [1] Default values of NMEA0183 output are RMC, GGA, VTG, GLL, ZDA, XTE and APB. They also can be set by "Settings-Advanced settings-NMEA-Output".
- [2] The NMEA0183 input can be analysis normally, if three input ports all input same kinds of sentences, the analytic priority should be RX2, RX3, RX4.
- [3] NMEA0183_3(TX3/RX3) can be set as receive or transmit. It can be set by Settings-Advanced settings-NMEA-NMEA0183_3 Configuration, default value is AIS output.

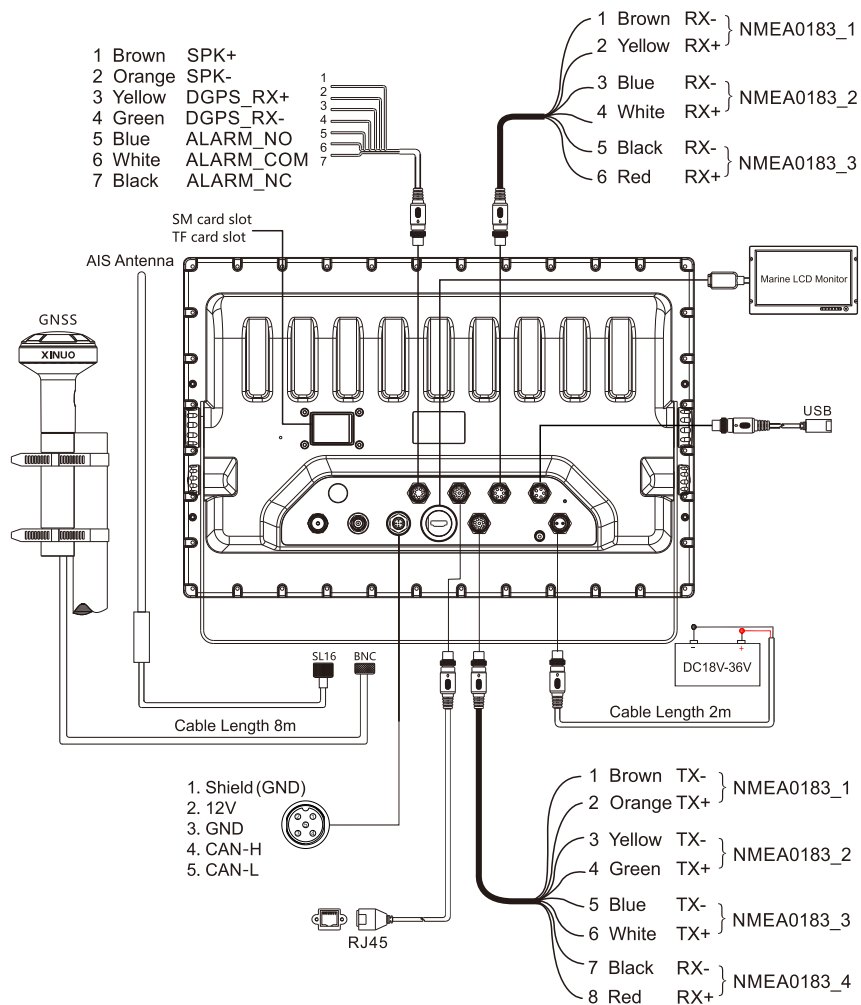
(2) XN60(12.1") Interface Definition



(3) XN60(15.6") Interface Definition



(4) XN60(21.5") Interface Definition



Notice

First three are NMEA 0183 outputs, Including.

GNSS&AIS output positioning and AIS sentences, baud rate 38400.

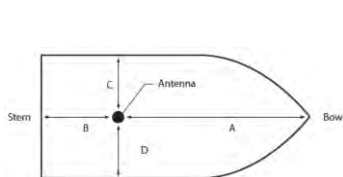
NMEA 0183_2 can choose to set AIS output or other sentences.

NMEA 0183_3 fixed output AIS sentences.

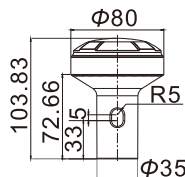
4 Installation Instruction

4-1 Installation of GNSS antenna

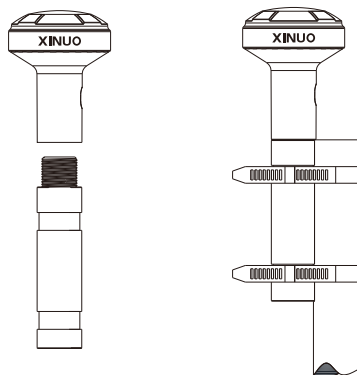
GNSS antenna should be without continuous obstacles in the level 360°, elevation 5°- 90°. Apart from more than 3m from the s-band radar and INMARSAT system and other high power antenna beam. Measure A/B/C/D distance data to set up the ship's static parameter.



GNSS antenna Installation Diagram

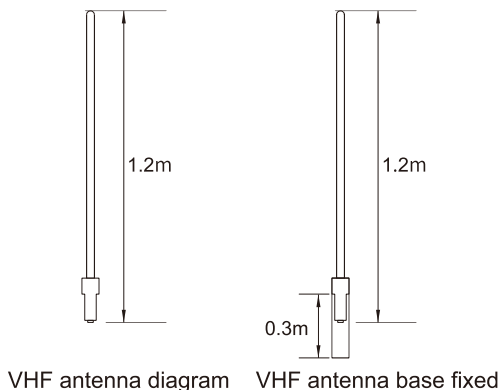


GNSS antenna Dimensions



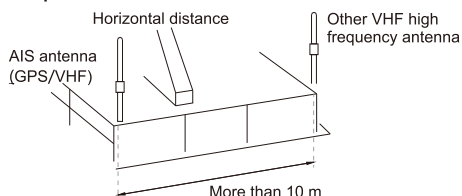
GNSS antenna Installation

4-2 Installation of VHF antenna



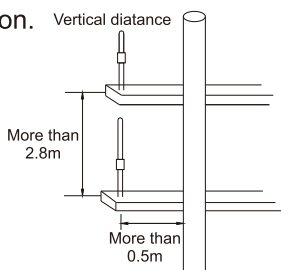
4-2-1 Horizontal Installation

- [1] VHF antenna should be installed in the level 360° without any obstacles.
- [2] VHF antenna should be kept more than 2m away from conductor structure in horizontal position. It also should be kept more than 3m away from the transmitted beam of radar and high power source antenna.
- [3] VHF antenna should be kept more than 10m away from ship's other VHF in horizontal position, if it must be in a same horizontal plane.



4-2-2 Vertical Installation

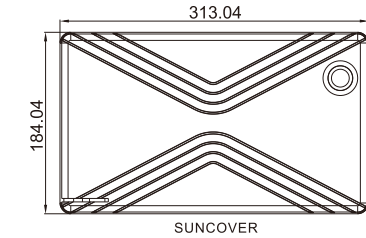
VHF antenna must be kept more than 2m away from ship's other VHF antenna in vertical position.



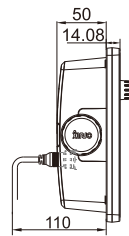
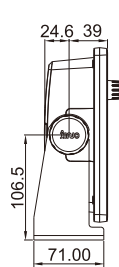
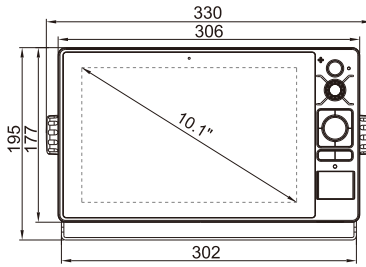
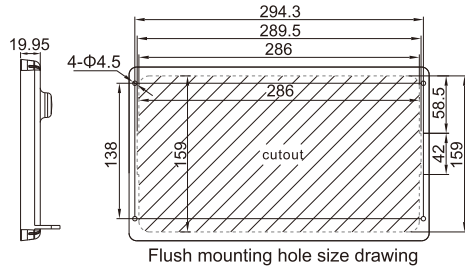
4-3 Equipment Installation

(1) XN60(10.1") Equipment Installation [Unit,mm]

Counter Mounting

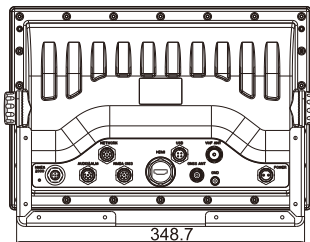
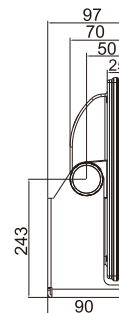
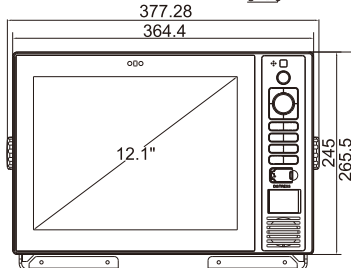
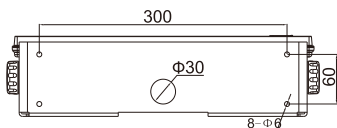


Flush Mounting

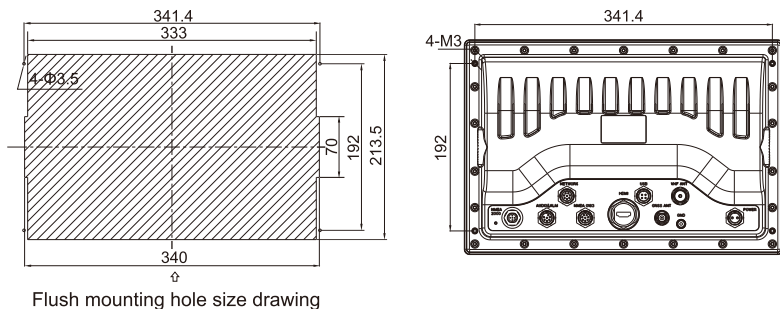


(2) XN60(12.1") Equipment Installation [Unit,mm]

Counter Mounting

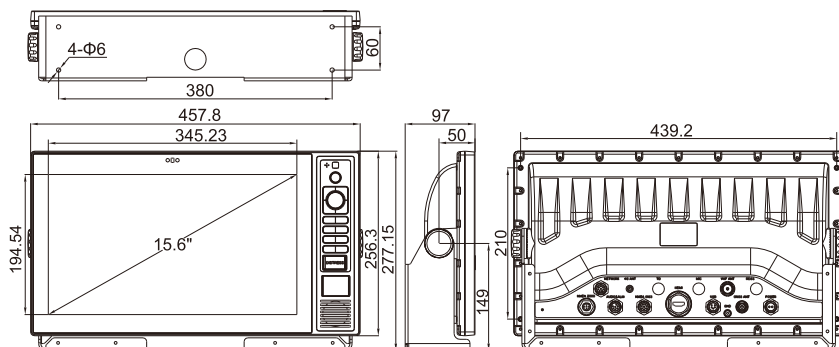


Flush Mounting

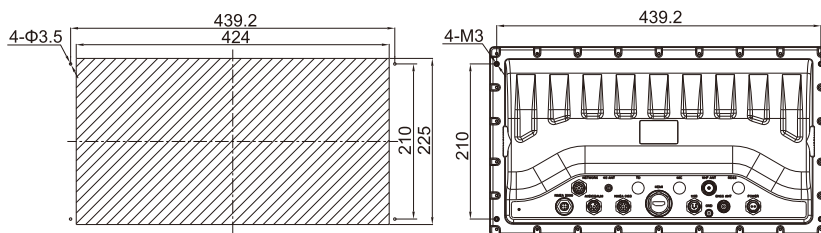


(3) XN60(15.6'') Equipment Installation [Unit,mm]

Counter Mounting

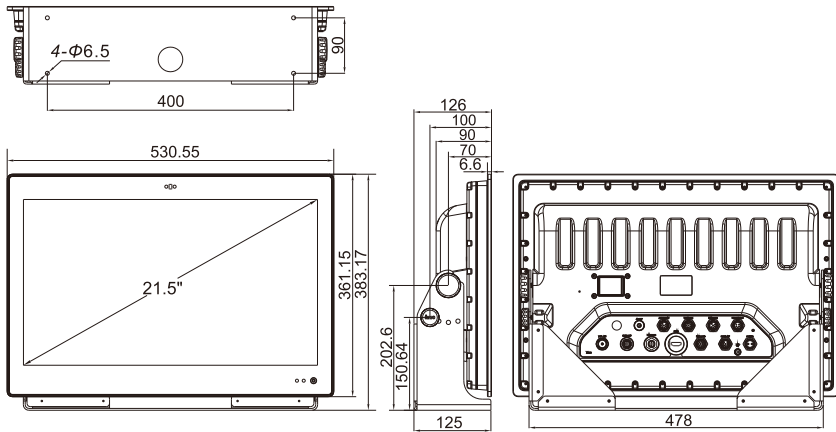


Flush Mounting

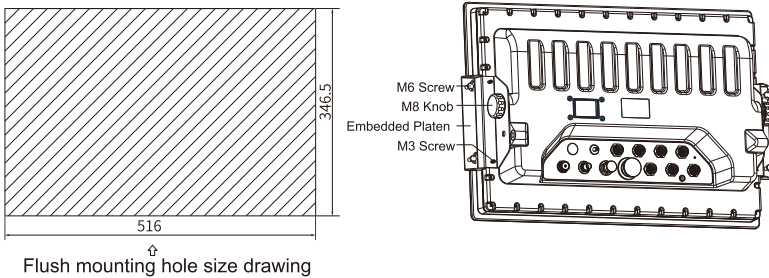


(4) XN60(21.5") Equipment Installation [Unit:mm]

Counter Mounting

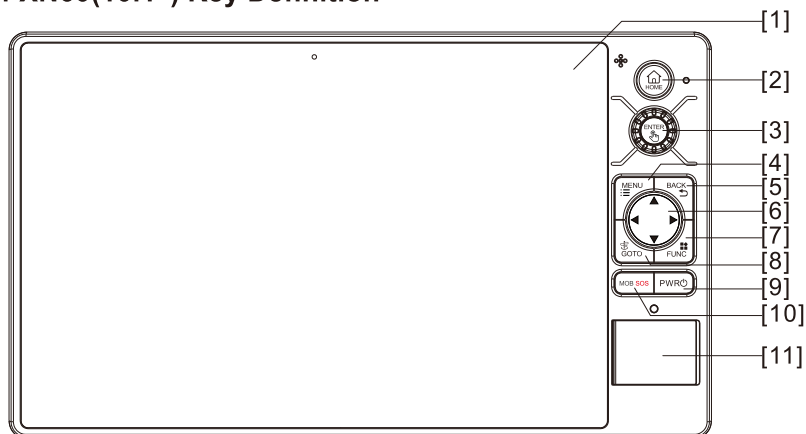


Flush Mounting



5 Key Definition

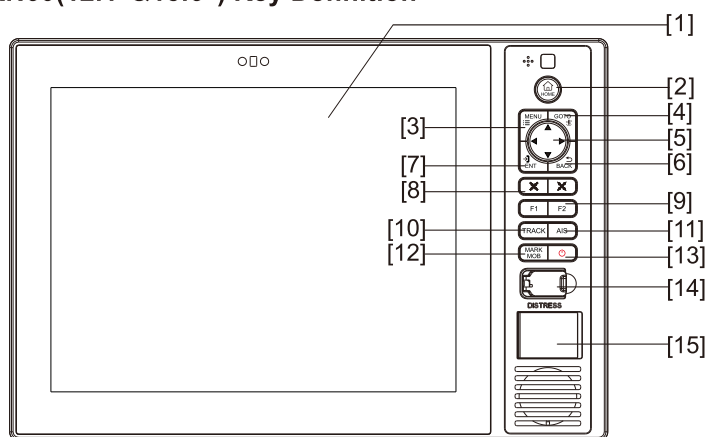
5-1 XN60(10.1") Key Definition



NO.	Key	Function description
[1]	Touch Screen	You can directly select, call up menu items, zoom in and out charts, etc.
[2]	〔HOME〕	Back to home page.
[3]	〔Knob〕	(1) Knob. Clockwise rotation to zoom in the chart Counterclockwise rotation to zoom out the chart. (2) Button. Press to confirm operation.
[4]	〔MENU〕	Press to enter the main menu.
[5]	〔BACK〕	Cancel the operation or return to the previous page.
[6]	〔Direction Key〕	Press to move focus. When on chart page, press to move the chart.
[7]	〔GOTO〕	Press to select a data to quickly begin a navigation.
[8]	〔FUNC〕	The function of FUNC can be customized by users on system setting.
[9]	〔MOB〕	(1) Short press to quickly create mob point. (2) Long press to jump to SOS page.

NO.	Key	Function description
[10]	〔POWER〕	(1) Press to adjust the screen brightness and device volume. (2) Long press to power off the device.
[11]	Card Slot	(1) The first card slot which is on the side of left is to insert SIM card. (2) The second and third card slots are to insert TF cards.

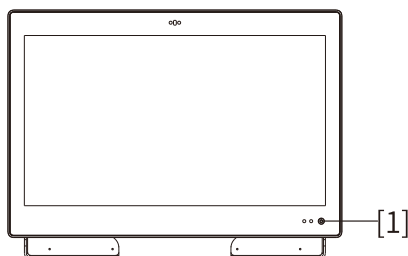
5-2 XN60(12.1"&15.6") Key Definition



NO.	Key	Function description
[1]	Touch Screen	You can directly select, call up menu items, zoom in and out charts, etc.
[2]	〔HOME〕	Back to home page.
[3]	〔MENU〕	Press to enter the main menu.
[4]	〔GOTO〕	Press to select a data to quickly begin a navigation.
[5]	〔Direction Key〕	Press to move focus. When on chart page, press to move the chart.
[6]	〔BACK〕	Cancel the operation or return to the previous page.

NO.	Key	Function description
[7]	〔ENTER〕	Confirm the execution of the input, press to confirm operation.
[8]	〔X〕 〔X〕	Zoom in and out of the chart.
[9]	〔F1〕〔F2〕	The function of FUNC can be customized by users on system setting.
[10]	〔TRACK〕	Open track list.
[11]	〔AIS〕	Open AIS list
[12]	〔MARK&MOB〕	(1) Short press to quickly create marker point. (2) Long press to quickly create mob point.
[13]	〔POWER〕	(1) Press to adjust the screen brightness and device volume. (2) Long press to power off the device.
[14]	Card Slot	(1) The first card slot which is on the side of left is to insert SIM card. (2) The second and third card slots are to insert TF cards.

5-3 XN60(21.5") Key Definition



NO.	Key	Function Description
[1]	〔POWER〕	(1) Short press to adjust screen brightness and device volume; (2) Long press to power off or reboot the device.

6 Operating Instruction

6-1 Network Connection

Click the “Settings” APP on the homepage to enter the system settings page. On the left side of the system settings page, you can choose and set the parameters of WIFI, cellular mobile network, Bluetooth, and Ethernet.

6-2 User Register/Login

Click the “Settings” APP on the homepage to enter the system settings page, and click the “Not logged in” button to enter the registration/login page.

6-2-1 Register

Click “Register Now” to go to register, users can input cell phone number, verification code and set password to register.

6-2-2 Login

There are two ways to log in, one is inputting cell phone number and password, the other is inputting cell phone number to get verification code and input verification code to login.

6-2-3 Forget Password

If forget password, users can input cell phone number to get verification code and input code to verify, password can be changed after verification.

6-3 Dual Chart System

On the Home page, click “Chart” to go to chart page, swipe left the screen to call out main menu. On the first line of main menu, there are INT-MAP, C-MAP and ENC for selection and switch.

Notice that if select C-MAP,

- [1] Please make sure the C-MAP card is MAX format.
- [2] Please make sure the C-MAP MAX card is inserted on the first card slot of the right side.

6-3-1 Display Setting

On the chart screen, press the [MENU] key to call up the operation menu, Click “Display Setting” to enter the display settings page, you can set the parameters of chart display, ownship display, AIS target display, AIS information window, my data, window button display and other advanced settings.

6-3-2-1 Mode Selection

Click “Mode Selection” to set the chart display mode of day, night, dusk and others.

6-3-2-2 Chart Display

Click “Chart Display” to enter the display setting page of the chart screen.

- [1] Chart direction. Set the chart direction to North up, Heading/Course up, and Route up.
- [2] Tide Station Display. Provide on/off for setting, if it is set to on, the tide station can be displayed on the chart.
- [3] Water depth mark. Provide on/off for setting. If set to on, the water depth line will be displayed on the chart.
- [4] Fishing area. Provide on/off for setting, if set to on, the fishing area will be displayed on the chart.
- [5] Latitude-longitude grid display. Provide on/off for setting. If set to on, the latitude and longitude grid lines are displayed on the chart.
- [6] Compass overlay. Provide on/off for setting, if set to on, compass is overlay on the chart.
- [7] Text size of place names. Set the font size of the place name displayed on the chart, small, medium and large are available.
- [8] Hazard display. the display level can be set as close/3nm /1.5nm /1nm/0.75nm/0.5nm.
- [9] Subsea obstruction. the display level can be setas close/3nm /1.5nm/1nm/0.75nm/0.5nm.
- [10] 10m depth contour. the display level can be setas close /3nm/ 1.5nm/1nm/0.75nm/0.5nm.
- [11] 20m depth contour. the display level can be setas close/3nm /1.5nm/1nm/0.75nm/0.5nm.

- [12] Miscellaneous line display. the display level can be set as close/3nm/1.5nm/1nm/0.75nm/0.5nm.
- [13] The line aids to navigation. the display level can be set as close/3nm/1.5nm/1nm/0.75nm/0.5nm.
- [14] Boundary. the display level can be set as close/3nm/ 1.5nm/1nm /0.75nm/0.5nm.
- [15] Cable. the display level can be set as close/3nm/1.5nm/1nm/ 0.75nm/0.5nm.
- [16] Oil and gas pipeline. the display level can be set as close/3nm /1.5nm/1nm/0.75nm/0.5nm.
- [17] Yangtze lane. the display level can be set as close/3nm/ 1.5nm /1nm/0.75nm/0.5nm.
- [18] Color filled between the depth contour. The display of the water depth area can be set as low water line, 2.5 depth contour, 5 depth contour.
- [19] Color filled between the depth contour display. the display level can be set as close/3nm/1.5nm/1nm/0.75nm/0.5nm.

6-3-2-3 Ownship Display

Click “Ownship Display” to enter the own ship display setting page.

6-3-2-4 AIS Target Display

Click “AIS target display” to enter the AIS target display setting page.

6-3-2-5 AIS Information Window

- [1] AIS target display. providing on/off for setting to control display or hide all AIS ships on the chart.
- [2] Display ownship. provide on/off for setting, if set to on, display own ship's AIS information on the chart.
- [3] AIS ship information window style. Bar and Card Display Window styles can be set.
- [4] AIS ship information display target. Can set which kinds of AIS ships that you would like to display AIS information on the chart, such as display all AIS ships' information, Class A AIS ships' information and so on.

- [5] AIS ship information display Mode. Can set the display rule of AIS ship information, such as simplified display, custom display and so on.
- [6] Information display content. Only when the AIS ship information display mode is set to custom, the information display will follow the below setting, including on or off of MMSI, ship name, nationality, national flag, course, heading, and bearing, Speed, distance, DCPA, TCPA, latest update.

6-3-2-6 My Data

Click “My Data” to enter the My Data Settings page. The setting items are as below.

- [1] NAVI Data Display Scale. the display level can be set as close / 25nm / 10nm / 5nm / 3nm / 1nm / all.
- [2] NAVI Data Display contents. Set navigation data to display symbols, names, symbols and names on the chart.
- [3] Track Display Scale. the display level can be set as close / 25nm / 10nm / 5nm / 3nm / 1nm / all.
- [4] Track Display contents. Set track to display symbols, names, symbols and names on the chart.
- [5] Plot Data Display Scale. the display level can be set as close / 25nm / 10nm / 5nm / 3nm / 1nm / all.
- [6] Plot Data Display contents. Set the plotting data to display symbols, names, symbols, and names on the chart.

6-3-2-7 Window Button

Turn on or off the window button on the chart, including upper left data information window, upper right data information window, lower left data information window, lower right data information window, full, measure, center, track, TX/RX signal indicator.

6-3-2-8 Advanced Settings

- [1] Cursor view content. provide data information and operation items, operation items for choose. When set as Data Information and Operation Items , the cursor view will display the data information and operation items. When set as operation items, the cursor view will display the operation items only.

- [2] Cursor auto hide. It is to set the cursor can be auto hiding or not. If it is set to auto hide, there are 10 seconds, 30 seconds, and 60 seconds for setting, when the cursor do not move over the time, the cursor will auto hide.
- [3] Cursor line display. The cursor line can be set as on and off. When the cursor line is off the connection line between ship and cursor will not be displayed.
- [4] User map display. to set the user map display on and off.
- [5] User map data setting. user map data can be imported from TF card to display on the chart.
Copy the mbtiles format file to the TF card, insert the TF card into the device, click "User map data setting" to select the layer file, and click "Confirm" to display the layer on the chart.
- [6] User map data import. Click "user map data import" to select the map file and click "Confirm" to import the map file into the device.
- [7] Internal user map data uninstall. you can choose to uninstall the user map data imported into the device.
- [8] Data export. The user data can be exported to TF card or USB.
- [9] GPX Data Import. GPX format data can be imported to the device.
- [10] Data import (Automatically restart the program after import).
Importing user data in. DB format into the device.

6-4 Track Operation

6-4-1 Track Record

6-4-1-1 Continue to record on previous record

Click the "Track" button on the home page or chart page to continue the previous track record. Click the "Track" button again to end the track recording.

6-4-1-2 Add a new record

Method 1. Long press the "Track" button on the chart page to create a new track and start recording. Click the "Track" button again to end the track recording.

Method 2. Click the "Track" app on the home page to enter the track list, and click the "Add" button to create a new track.

6-4-1-3 Select a record to continue recording

Method 1. On the chart page, click to select the track to continue recording, and click “Track” button in the pop-up operation box to continue the track recording.

Method 2. Click the “Track management” app on the home page to enter the track list, and click the “Track record” button in the operation bar on the right side of the track to be recorded to continue recording the track.

6-4-2 Track Color Switch

Method 1. Click to select the data that want to change color on the chart and there will pop-up an operation selection box, click “Edit” button to go to edit box to edit the display style including symbol and color of the selected data.

Method 2. On the Home page, click “Track” app to go to track list. On the track list, click the data that want to change color to go to edit page to edit the display style including symbol and color of the selected data. Notice. The track color switch only work for the new creation data after switch.

6-4-3 Track Deletion

Method 1. Click to select the data that want to delete on the chart and there will pop-up an operation selection box, click “Delete” button on the operation selection box to delete the track.

Method 2. On the Home page, click “Track” to go to track list. On the track list, swipe left the data that want to delete to call out delete button to select delete the entire data or delete to data that was with specified color.

6-4-4 Track Batch Edit, Deletion

On the Home page, click “Track” to go to track list. On the track list, long press the track data to go to batch operation page. Multiple/All data can be selected for batch operations of Lock, Favorite, Display, Delete, Delete by color, etc.

6-5 Navigation Data Operation

Navigation data includes waypoint and route.

6-5-1 Navigation Data Creation

Method 1. Click to confirm the starting point of navigation data on the chart and there will pop-up an operation selection box, click “Add” button on the operation selection box to confirm the adding.

[1] If it is to create a waypoint, go on to click “Confirm” button on the operation selection box and select the data type as waypoint to finish the waypoint creation, click “Cancel” button to give up the waypoint creation.

[2] If it is to create a route, go on to click on the chart to add nodes. After finish nodes adding, click “delete” button on the operation selection box to delete the latest adding node, click “Confirm” button and select the data type as route to finish route creation, click “Cancel” button to give up the route creation.

Method 2. On the Home page, click “NAVI Data” app to go to navigation data list. On the navigation data list, click “Add” button and select add a waypoint or a route to go to data adding page to input LAT/LON data.

6-5-2 Navigation Data Deletion

Method 1. Click to select the data that want to delete on the chart and there will pop-up an operation selection box, click “Delete” button on the operation selection box to delete the data.

Method 2. On the Home page, click “NAVI Data” app to go to navigation data list. On the navigation data list, swipe left the data that want to delete to call out delete button, click the “Delete” button to delete the data.

6-5-3 Navigation Data Batch Edit, Deletion

On the Home page, click “NAVI Data” app to go to navigation data list. On the navigation data list, long press the navigation data to go to batch operation page. Multiple/All data can be selected for batch operations of Lock, Favorite, Display, Delete, etc.

6-6 Navigation Operation

Navigation data and MOB can be used to navigation.

6-6-1 Call Navigation Data/MOB To Navigation

Method 1. Click to select the data that want to navigation on the chart and there will pop-up an operation selection box, click “NAVI” button on the operation selection box to start navigation.

Method 2. On the Home page, click “NAVI Data”/ “MOB” to go to navigation data/MOB list. On the navigation data/MOB list, click “NAVI” on the operation bar of the data that want to navigation to start navigating.

6-6-2 Call History Navigation Data

Click the “NAVI Data” APP on the homepage to enter the navigation data list, click the “Historical navigation” button to enter the historical navigation data list, and click the “NAVI” button in the operation bar on the right side of the data to be navigated again to start navigating from the ship’s position.

6-7 Plot Data Operation

Plot data includes point, line and polygon.

6-7-1 Plot Data Creation

Method 1. Click to confirm the starting point of plot data on the chart and there will pop-up an operation selection box, click “Add” button on the operation selection box to confirm the adding.

- [1] If it is to create a point, go on to click “Confirm” button on the operation selection box and select the data type as point to finish the point creation, click “Cancel” button to give up the point creation.
- [2] If it is to create a line/polygon, go on to click on the chart to add nodes. After finish nodes adding, click “delete” button on the operation selection box to delete the latest adding node, click “Confirm” button and select the data type as line/polygon to finish data creation, click “Cancel” button to give up the data creation.

Method 2. On the Home page, click “Plot Data” app to go to plot data list. On the plot data list, click “Add” button and select add a point, line or a polygon to go to data adding page to input LAT/LON data.

6-7-2 Plot Data Deletion

Method 1. Click to select the data that want to delete on the chart and there will pop-up an operation selection box, click “Delete” button on the operation selection box to delete the data.

Method 2. On the Home page, click “Plot Data” app to go to plot data list. On the plot data list, swipe left the data that want to delete to call out delete button, click the “Delete” button to delete the data.

6-7-3 Plot Data Batch Edit, Deletion

On the Home page, click “Plot Data” app to go to plot data list. On the plot data list, long press the plot data to go to batch operation page. Multiple/All data can be selected for batch operations of Lock, Favorite, Display, Delete, etc.

6-8 AIS Operation

6-8-1 AIS List

On the Home page, click “AIS List” to go to AIS list.

- [1] On the AIS list, click the “StateID” button of the AIS targets to do the operations of favorite, join in/remove to group.
- [2] On the AIS list, click “NAVI” on the operation bar of the AIS target that want to be the destination of navigation to starting navigating, click “SMS” to quickly go to message editing page to edit and send a message to the AIS target, click “View” to quickly go to chart page to view the AIS target.
- [3] Long press the AIS target data on the AIS list to go to batch operation page. Multiple/All AIS targets can be selected for batch operations of Favorite, SMS, Join in Group, etc.

6-8-2 AIS Radar

On the Home page, click “AIS Radar” to go to AIS radar page.

6-8-2-1 Range Circle

On the AIS Rader page, there are four range circles. Users can click “+” or “-” to adjust the field of view. There are 2nm, 5nm, 10nm, 20nm, 30nm, 40nm, and 50nm for adjustment.

6-8-2-2 Information Display

- [1] Around the range circles, there displays own-ship's SOG, COG, HDG, LAT/LON and the targets in view, filed of view, etc.
- [2] Selecting an AIS target, the AIS target's static parameter and navigational information are displayed on the right side. Users also can do operation of navigation, favorite, add to group and send message for the selected AIS targets.

6-8-2-3 Display Setting

Click "Setting", users can set the heading line, COG line and track display of AIS targets.

6-8-3 Ship Parameters

Method 1. In the AIS list, click the "Ship Parameters" button to open the ship parameters page. Click the "Static Parameter" button to enter the static parameters page, where you can view the ship's MMSI, ship name, call sign, ship model, A / B / C / D and other parameters. Click the "NAVI Parameter" button to enter the navigation parameter setting page, where you can set the parameters such as Max draft, number of crew, navigation status, destination, ETA.

Method 2. Click the "Ship Parameters" app on the home page to open the parameters of the ship. Click the "static parameters" button to enter the static parameters page, where you can view the ship's MMSI, ship name, call sign, ship model, A / B / C / D and other parameters. Click the "NAVI Parameter" button to enter the navigation parameter setting page, where you can set the parameters such as Max draft, number of crew, navigation status, destination, ETA.

6-8-4 Group Management

Click the "Group Management" app on the home page to enter the group management page.

- [1] Click "Add Group" button on the left side of group management page to go to add a new group and set the group's name, group member display symbol and group alarm. Click "Add" button on the right top of group management page to add group members, click "Search" to

input MMSI/Name to search the group member list, click “Edit” to edit the properties of the group, click “SMS” to quickly send a message to the group members.

- [2] Swipe left the group name button to call out delete button, click the “Delete” button to delete the group.

6-8-5 Safety Information

Click “SOS” app or long press “Mob SOS” on the home page to enter the information display page. According to the actual situation, click the corresponding information button to pop up the security information sending reminder box, click “Confirm” to start sending security information, and click “Cancel” to cancel the security information sending.

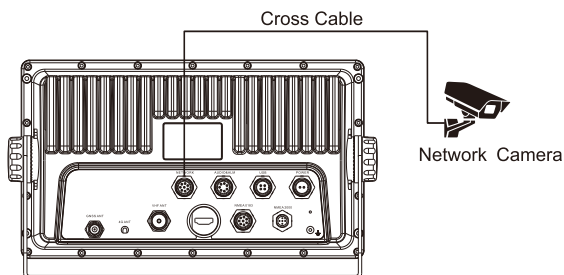
6-8-6 Message

- [1] **Message list.** you can view the message directly. Click a message to view all the information sent by the account;
- [2] **Address book.** you can view the members in the address book. Click the address book member to open the message dialog box;
- [3] **Search.** enter keywords in the search box on the message list page, and the message list will display the relevant information of search keywords. In the address book page, enter keywords to display the key members of address book;
- [4] **New.** click contact management to add new member information to the address book, and click common language management to add common words.

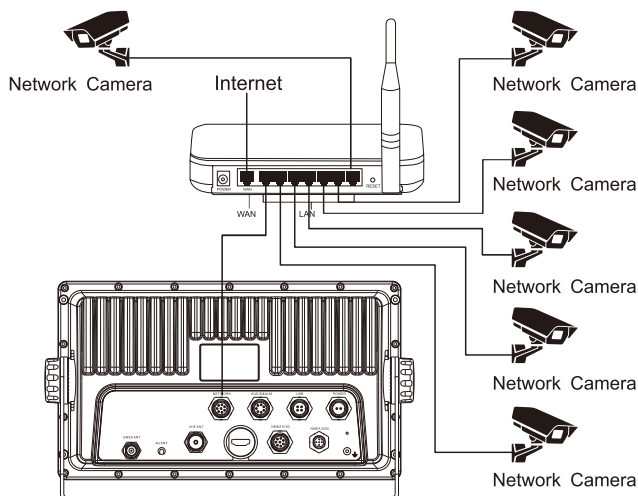
6-9 Video Surveillance (optional)

The device supports up to 6 network cameras, which can be used for video monitoring, video recording, screen capture, mobile monitoring alarm and other functions.

6-9-1 Installation Connection Diagram



Scheme 1. video monitoring connection diagram



Scheme 2. video monitoring connection diagram

6-9-2 Video Input Screen

After access to the camera, click "Video Surveillance" app on the home page to enter the video monitoring screen. Through the shortcut button on the video monitoring screen, you can realize screenshot, video recording, channel switching, alarm area setting, monitor transmission on or off, full screen display and other operations.

[1] Screenshot

Click “Screenshot” to capture the page image and save it on the device.

[2] Start REC

Click “Start REC” and click again to end the recording. The video is saved in the device and saved in the device TF card, which can be viewed in the video management.

[3] SW CAMERA

Click “SW CAMERA”, and 4 camera channels are available for selection and display. Select one channel, that is, the monitoring screen will display the monitoring image of the channel.

[4] ALM area

Click “ALM area”, and the alarm area setting box will pop up. Drag the border to flexibly set the alarm area of the monitoring screen. It can monitor the movement of the alarm area, monitor the moving picture in the alarm area, and generate an alarm. The alarm information can be viewed in the alarm information management.

[5] Close SCRN

Click “Close SCRN” to turn on or off the display of the channel image.

[6] Full SCRN

Click “Full SCRN” to display the monitoring image of the channel in full screen, and click “Split SCRN” to exit the full screen.

6-9-3 Operation Menu

Under the video monitoring screen, the left slide screen calls up the video surveillance operation menu. It can be used for monitoring settings, including Video management, Screenshot management, Alarm Log, Monitoring settings.

6-9-3-1 Video Management

Click the video button to start recording, and click again to end recording. Click the video management of menu to view the relevant stored videos, which can play, pause, drag progress, search and batch operation.

6-9-3-2 Screenshot Management

View the relevant storage pictures of the screenshots and the time of the screenshots. You can share, search, delete single and batch photos.

6-9-3-3 Alarm Log

Display the alarm time, alarm camera and alarm type. Slide the data bar to be deleted to the left to bring up the delete button, click "Delete" button to delete the alarm information. Long press the alarm information to go to batch operation.

6-9-3-4 Monitoring Setting

[1] Camera Setting

Camera screen, When the camera screen switch is turned off, the camera screen will not be displayed.

Camera List. Used to display and set the receiving switch of camera screen and the connection status of all cameras.

[2] Record Setting

When automatic recording is on, it can be recorded in full time.

When it is off, it can set the timing recording time.

[3] Alarm Setting

There are three alarm types of signal disconnection, occlusion screen and video disconnection, which can be set by the user according to the actual use.

[4] Storage Setting

Display the storage location of the TF card, turn on the automatic overwrite switch, automatically overwrite when the data is full, and format the memory card.

[5] Transmit Setting

Select the source of camera access through Ethernet or WiFi.

6-10 Fishing Logs (optional)

Click the “fishing logs” app on the home page to enter the fishing log record page. The fishing log is used to record the operation time, operation location, catch and other information of the fishing boat.

[1] Start work

Click Start to record the time of starting work, and information of latitude and longitude.

[2] Finish work

Click End to record the time of finish work, latitude and longitude. After finishing the operation, click the fishing record to enter the relevant data of the catch, click Confirm to save.

[3] Fish Species

Click Fish Species to configure the fish type in the fishing log list.

[4] Export of fishing log

Through www.ships66.com, you can view the “fishing logs” of the device, and you can choose to export the fishing log.

6-11 Volume/Brightness Adjustment

Method 1. Press the physical key **[Power]** to open the mode adjustment setting window, which can adjust the volume and brightness of the equipment, switch the chart display mode, and select the day and night modes.

Notice. Long press the physical button **[Power]** will power off the equipment.

Method 2. Click the “Display mode” app on the home page to open the mode adjustment window, where you can adjust the volume and brightness of the device, and switch the chart display mode. You can select the modes of day and night.

7 Update Instruction

On the Home page, click “Settings” to go to setting page, click “Software Update” on the left of setting page to go to view the version information of operation system, chart, weather, calendar, main application, etc.

7-1 Update Online

Under normal network connection, if there is a new version, there is a red identification point in front of the version number to prompt the update. Click the red identification point to enter the update content page. Click “Download and install” to automatically download the installation package online.

7-2 Local TF card/U disk upgrade

Note. XN60(10.1") is upgraded with micro-TF card, The XN60(21.5") is upgraded with USB(the 5-core airhead to USB)

7-2-1 Format the TF card /USB to FAT32 format

7-2-2 Update File Download

Get the upgrade link from the competent department and dealers to download the upgrade program, including the main application, weather, calendar, input method, chart data, etc.

7-2-3 Update

After putting the TF card/USB into the card slot or USB port(XN60(21.5"))of device, the TF Card/USB Update menu will appear automatically on the version information page. Click the “TF Update” button to start updating.

Notice.

- [1] The TF Card/USB Update menu appears only when the TF card is already put into the card slot or USB port(XN60(21.5")) of device.
- [2] If there are no new versions, the TF Card/USB Update menu will not appear.

8 Hardware Configuration

Model	XN60(10.1")	XN60(12.1")	XN60(15.6")	XN60(21.5")
Equipment Parameters				
Operation System	Android 5.1 with OpenGL ES 3.0 & OpenCL 1.1			
CPU	Cortex-A17 Quad core			
CPU Speed	1.8GHz 32 Bit			
RAM	2GB DDR3 1333MHz			
Flash Memory	16GB Flash Memory			
Video Engine	Mali-T764			
Touch Panel	Capacitive Multi-touch Screen			
Size	10.1 inch	12.1 inch	15.6 inch	21.5 inch
Brightness	600cd/m ² (Max)	600cd/m ² (Max)	1000cd/m ² (Max)	800cd/m ² (Max)
Viewing Angle	Wide View 85°			
Resolution	1280 x 800	1024 x 768	1920 x 1080	1920 x 1080
Power Voltage	DC 10V-36V	DC 10V-36V	DC 10V-36V	DC 18V-36V
Power Consumption	15W	15W	25W	60W
Audio	1W	1W	3W	3W
Microphone	Support			
Camera	8 million pixels			
Micro SD Card Slot	Support Two 512GB High Speed Micro-SD Card			
Bluetooth	BT4.0			
WiFi	802.11 b/g/n			
Ethernet	100/1000Mbps			
4G Module	LTE/WCDMA/GSM Internal/External Antenna Switch			
NMEA 0183	4 ports data interface, baud rate can be set independently, including 2 ports input, 1 ports configurable input/output, 1 ports output.			7 ports data interface, baud rate can be set independently, 4 ports input, 3 ports output.
NMEA 2000	Support GNSS, AIS, ship heading and other data communication			
Other Interfaces	1 audio output, 1 alarm output, 1080P HDMI, support copy screen or extend screen			
Working Temperature	-15°C~+55°C			

GNSS		
GNSS Receiver		72 channels
Receive Frequency		GPS L1 1575.42MHz, BDS B1 1561.098MHz
Accuracy	GPS&BDS	2.5m (CEP50% open sky)
	GPS	5m (CEP50% open sky)
	BDS	5m (CEP50% open sky)
	DGNSS	1m (CEP50% open sky)
Speed Accuracy		0.1m/s (50%@10m/s)
Time to First Fix		Cold Start <30s, Hot Start <1s
AIS Class B Transceiver		
Frequency		156.025 ~ 162.025MHz
Bandwidth		25KHz
Modulation		GMSK/FM
Data Rate		9600bps
Number of AIS Transmitter		1
Number of AIS Receiver		2 (AIS1, AIS2)
AIS 1 Channel (default)		161.975 MHz
AIS 2 Channel (default)		162.025 MHz
Output Power		2 W
Rx Sensivity		< -107 dBm @ 20% PER
Standards		
<ol style="list-style-type: none"> Chapter 5 Part Four of Technical Regulations for the Statutory Surveys of Sea-going Ships Engaged on Non-international Voyages (2020) and its Amendments, of MSA, P.R. China. Chapter 6, Part Five of Technical Regulations for the Statutory Surveys of Inland Waterways Ships 2019 and its Amendments, of MSA, P.R. China. SC/T 8145-2011 Technical requirements for shipborne equipment of class B automatic identification system of fishing vessel. IEC 61162-1, 2016 Maritime navigation and radio communication equipment and systems -Digital interfaces- Part 1, Single talker and multiple listeners. IEC 60945, 2002/COR1, 2008 Maritime navigation and radio communication equipment and systems - General requirements - Methods of testing and required test results. IEC 62287-1, 2017 Maritime navigation and radio communication equipment and systems - Class B shipborne equipment of the automatic identification system (AIS) - Part 1, Carrier-sense time division multiple access (CSTDMA) techniques. 		

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