

**XINUO**



# GN150 Series Multi-System Shipborne Radionavigation Receivers

Quick Reference V1.2

## INTRODUCTION

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**NOTES:** This unit is not used for direct navigation. When in actual use, please compare with all 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.

**NOTES:**

【 】 : Menu title, such as 【 Main Menu 】 means the basis menu called by the system.

⌂ : The symbol on the Keyboard buttons, such as ⌂ Menu ⌂ means the menu button on the keyboard.

This product manual (Quick Reference) is for reference only. Please refer to the actual product for details. This product manual (Quick Reference) is applicable to the following devices:

☐ GN150 ( 7" )      ☐ GN150 ( 8" )      ☐ GN150 ( 10" )

☐ GN150 ( 12" )      ☐ GN150 ( 15" )      ☐ GN150 ( 17" )

## CAUTIONS

Before turn on the product, please be sure to read the following cautions to avoid product failure caused by inappropriate operation.

1. Avoid fall down cases damage the product, firmly install your product is necessary.
2. Do not use this product with any other power adapters or the navigator may not work properly; its performance will be affected or even the equipment will be damage because of the different circuit designs. The voltage requirement for this product is DC 24V. Do not exceed this voltage range.
3. Do not disassemble the product by any means or no warranty will be extended.
4. When in use or cleaning, be sure to avoid any liquid or other objects falling into the product, or this might cause damage or short circuit.
5. Do not place the product and its accessories in a damp environment or the direct sunlight. Keep the machine in a dry environment.
6. Power supply should be grounded to avoid static and lightning. If not in use, please turn off the system.
7. If the product cannot position for a long time, check the following:  
Whether the antenna is installed properly; the connection; any forms of interference around the antenna. Before the starting of the AIS system, make sure that the antenna cable joints are intact; there is no short-circuit or open circuit; and follow the correct procedure. During the start-up stage, do not arbitrarily remove the antenna in order to avoid damages to the equipment.
8. When external temperature is too high, the product may not function properly, stop using the equipment.
9. Avoid direct sunlight to the LCD screen. You can adjust the angle of the screen anytime to get the best visual effects.
10. When hardware failure occurs (e.g. power lines burned, machine damage or foreign bodies fall into the equipment, etc.), shut down the power immediately and contact with the distributor immediately.
11. Virtually, all data sources contain some inaccurate or incomplete data, the data only for your reference and we cannot guarantee any accident, minor injury or properly damage. All legal responsibility and other obligation will not be taken by XINUO.



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## 1 Product Introduction

The GN150 series supports BDS and GPS dual mode positioning. The screen size includes 7 inches, 8 inches, 10 inches, 12.1 inches, 15 inches and 17 inches. GN150 series is approved by CCS. At the same time, it supports chart system and multi language display. In addition, RTCM 2.3 DGPS signal can be received, and all kinds of alerts will be reminded, including power failure alarm.

## 2 Standard Configuration

GN150 ( 7" ) & GN150 ( 8" )

ID	Name	Quantity
1	Display	1
2	Bracket	1
3	7-Pin Power & Data Cable ( 2m )	1
4	10-Pin Data Cable ( 1.2m )	1
5	4.8*20 Screw	4
6	3*20 Screw	4
7	M8 Knob	2
8	Rubber Gasket	2
9	GNSS Antenna (12m)	1
10	Quick Reference	1

## GN150 (10")

ID	Name	Quantity
1	Display	1
2	Bracket	1
3	2-Pin Power Cable (2m)	1
4	8-Pin Data Cable (1.2m)	1
5	10-Pin Data Cable (1.2m)	4
6	4.2*20 Screw	4
7	M8 Knob	4
8	Rubber Gasket	2
9	GNSS Antenna (12m)	1
10	Quick Reference	1

## GN150 ( 12" ) &amp; GN150 ( 15" )

ID	Name	Quantity
1	Display	1
2	Bracket	1
3	2-Pin Power Cable (2m)	1
4	8-Pin Data Cable (1.2m)	1
5	10-Pin Data Cable (1.2m)	1
6	4.2*20 Screw	4
7	M8 Knob	2
8	Rubber Gasket	2
9	Remote Control Bracket	1
10	Remote Keyboard	1
11	GNSS Antenna (12m)	1
12	Quick Reference	1

## GN150 (17")

ID	Name	Quantity
1	Display	1
2	Bracket	1
3	M8 Knob	2
4	M6 Knob	2
5	Rubber Gasket For M8 Knob	4
6	Rubber Gasket For M6 Knob	4
7	2-Pin Power Cable (2m)	2
8	6-Pin Data Cable (1.2m)	2
9	8-Pin Data Cable (1.2m)	1
10	7-Pin Data Cable (1.2m)	1
11	GNSS Antenna (12m)	1
12	4.8*20 Screw	4
13	Remote Control	1
14	Remote Control Bracket	1
15	Quick Reference	1

## 3 System Connection Diagram and Serial Port Definition

### 3-1 Serial Port Setting Instruction

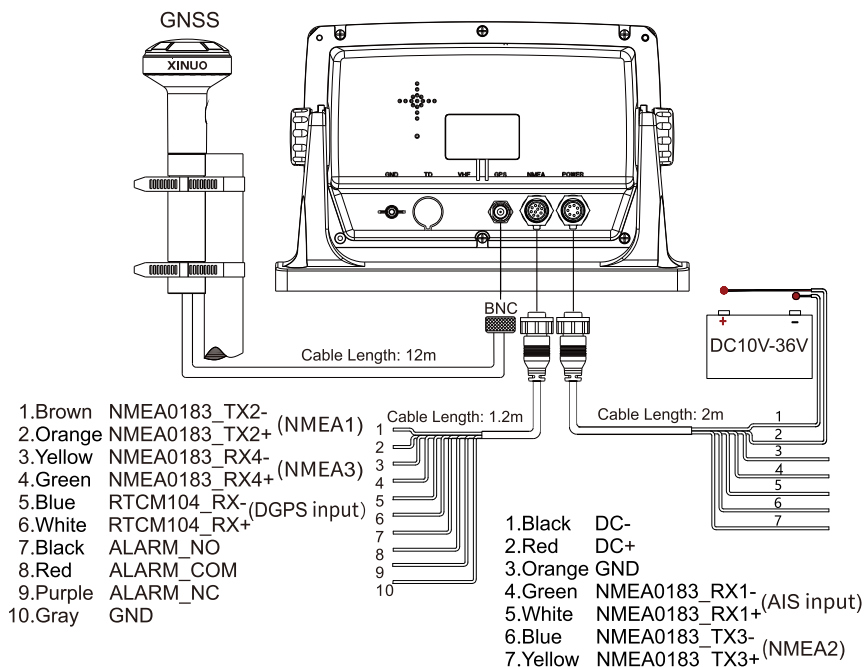
#### Operation:

- (1) 【Main Menu】 -- 【Setting】 -- 【Input and Output port】 -- 【Output Setting】 , you can set the output sentences
- (2) 【Main Menu】 -- 【Setting】 -- 【Input and Output port】 -- 【Baud Rate Setting】 , you can set the baud rate of NMEA0183
- (3) 【Main Menu】 -- 【Setting】 -- 【Input and Output port】 -- 【Signal Detection】 , you can view input and output sentences
- (4) NMEA0183 default output sentences: APB, GGA, GLL, RMC, VTG, XTE, ZDA

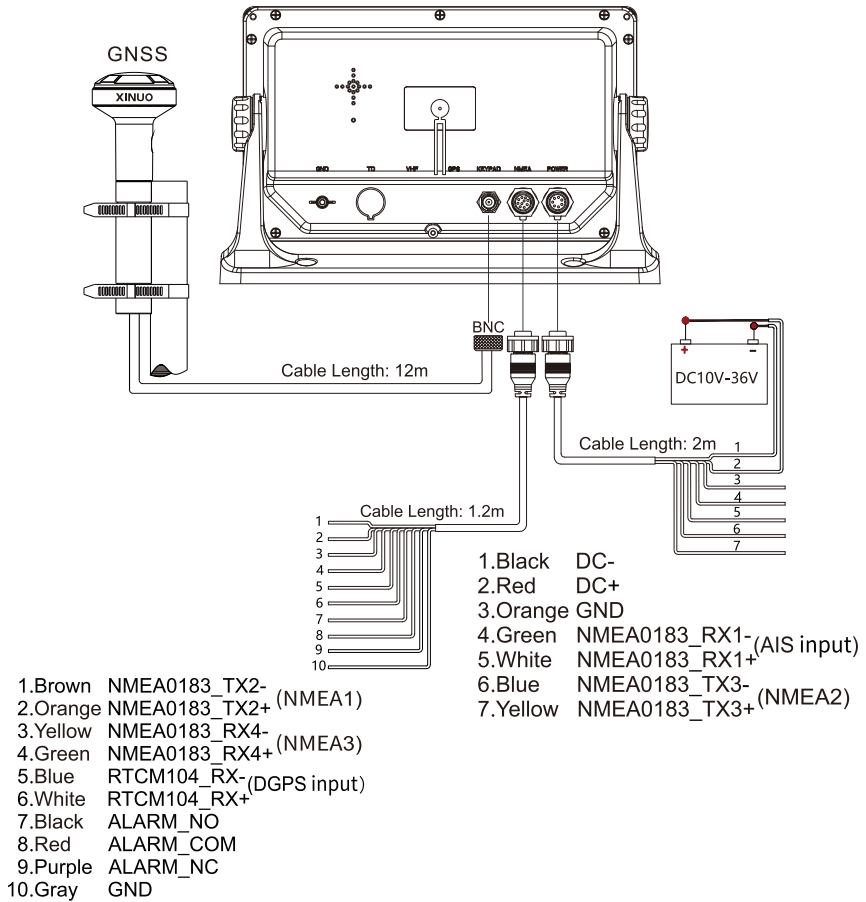
The baud rate of AIS input/output port is 38400 ,others are 4800.

### 3-2 System Connection Diagram and Serial Port Definition

- (1) GN150 (7")

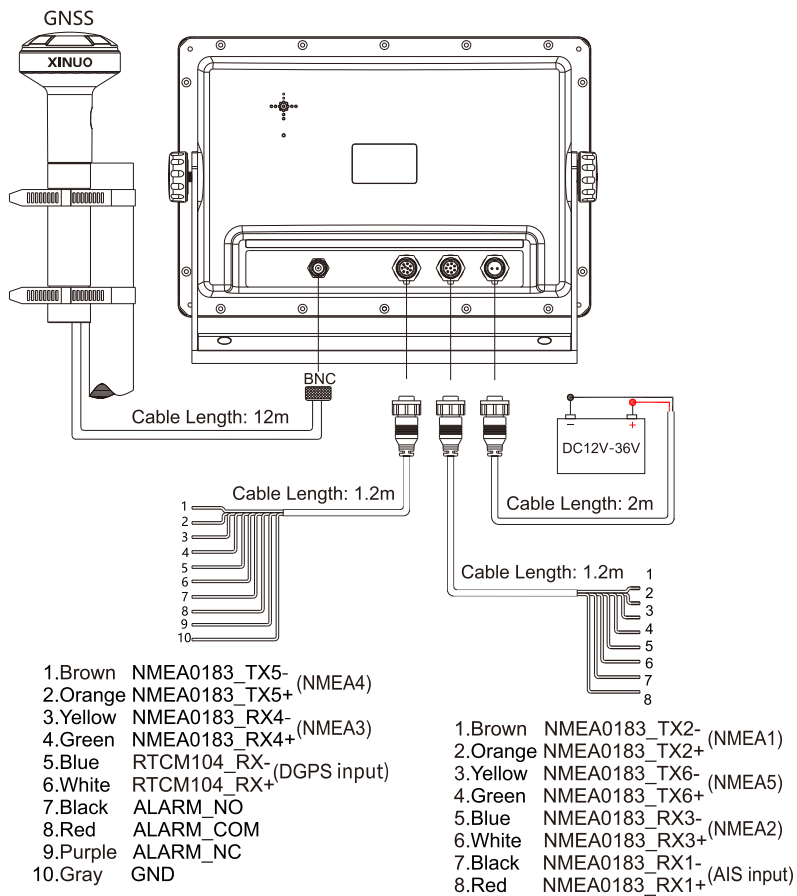


## (2) GN150 (8")

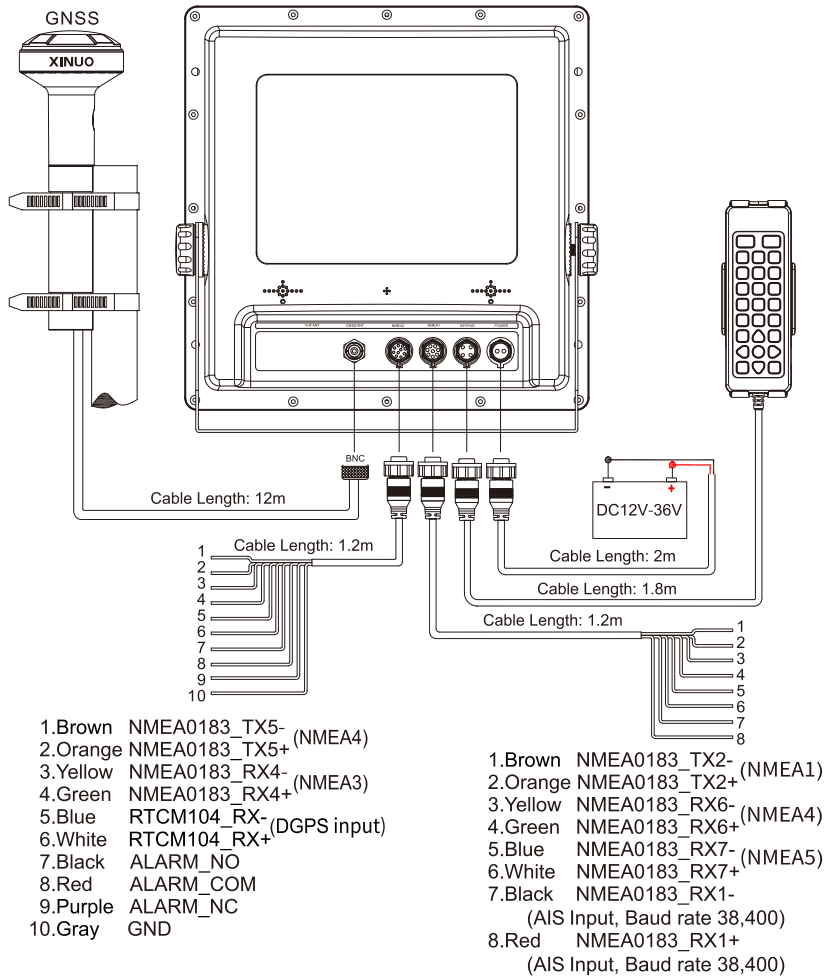




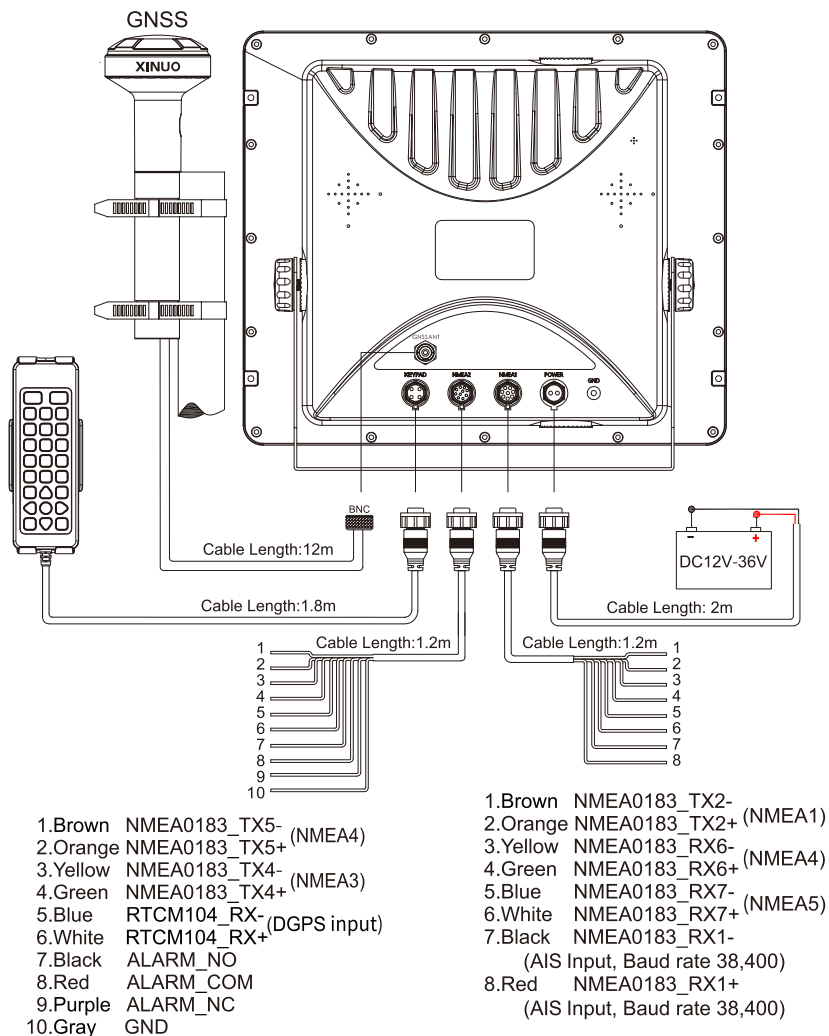
### (3) GN150 (10")



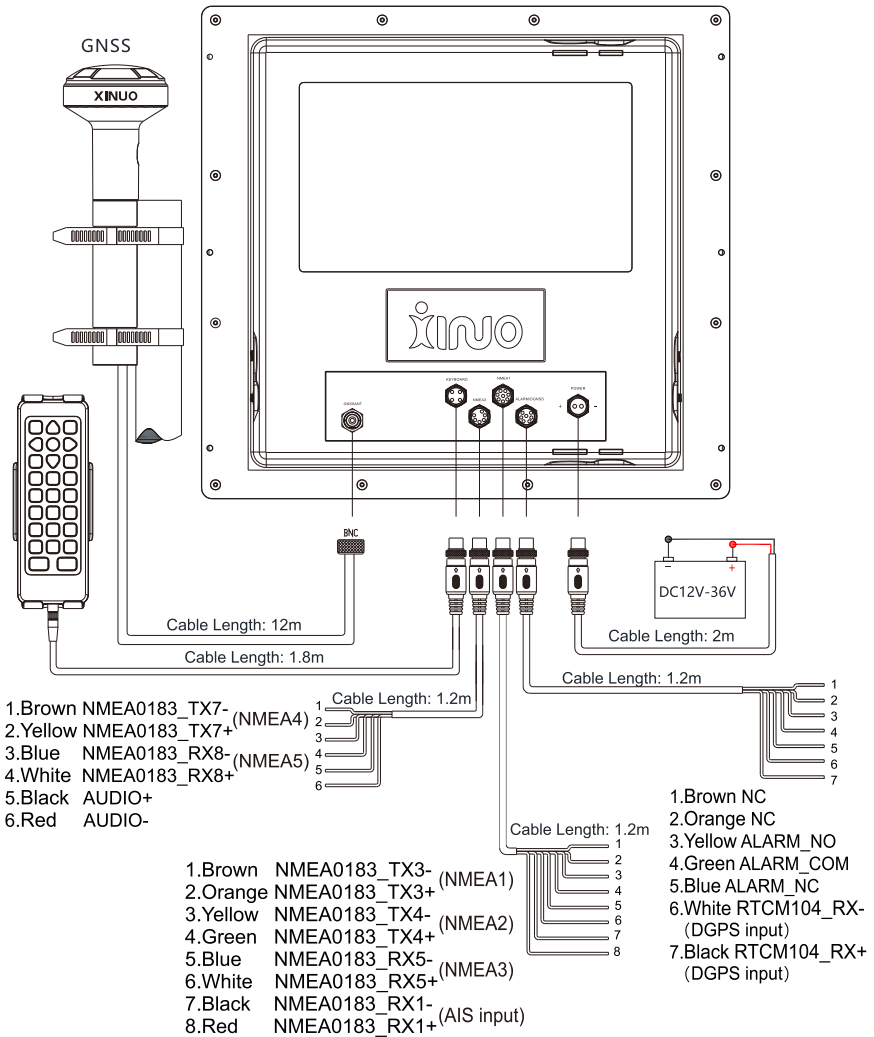
## (4) GN150 (12")



## (5) GN150 (15")



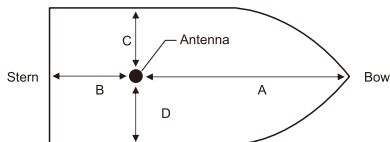
## (5) GN150 (17")



## 4 Installation Instructions

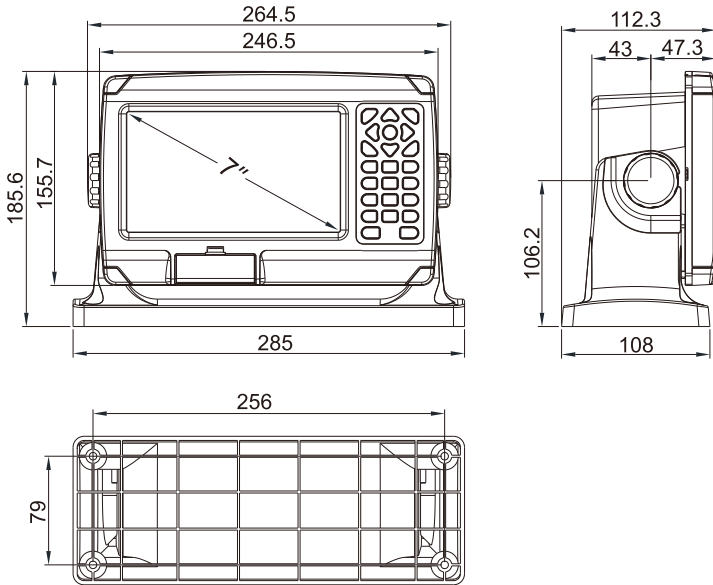
### 4-1 GNSS Antenna Installation

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.

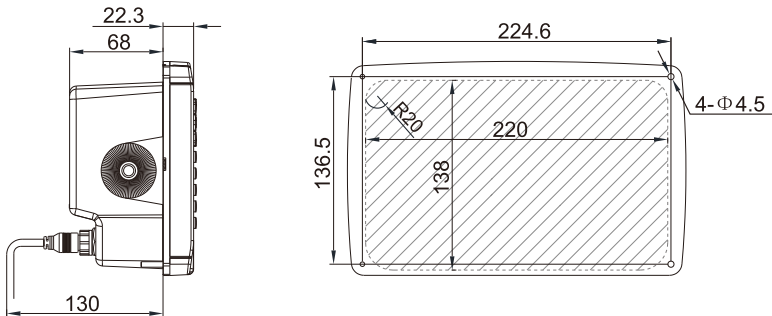


## 4-2 Machine Installation

GN150 (7") Counter mounting [unit:mm]

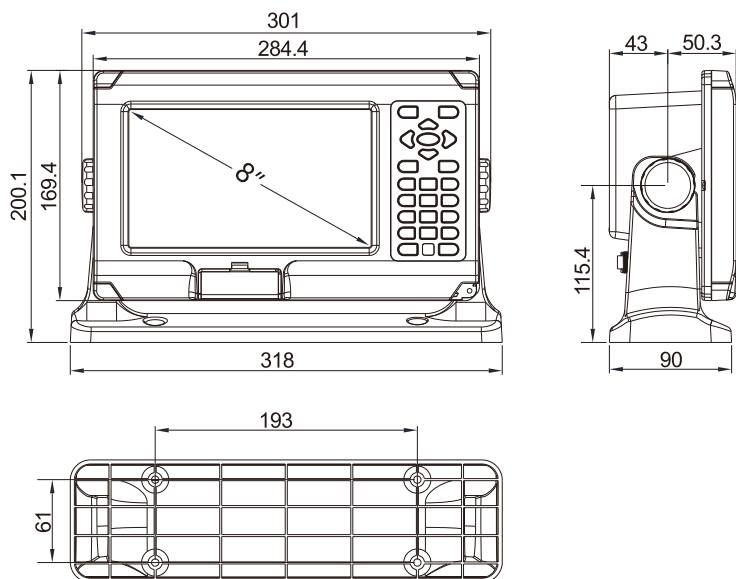


Flush mounting [unit:mm]

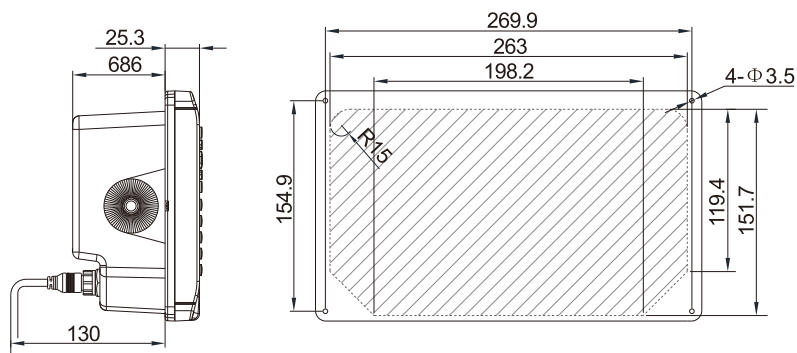




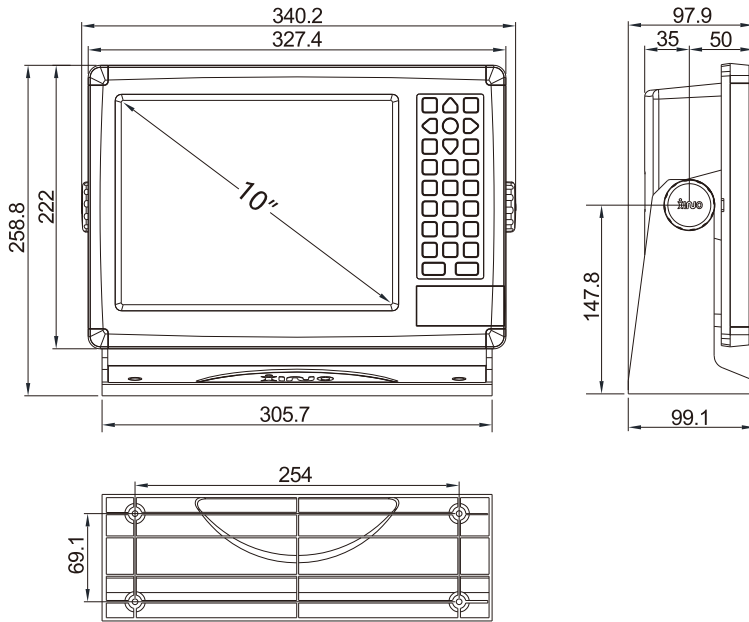
# GN150 (8") Counter mounting [unit:mm]



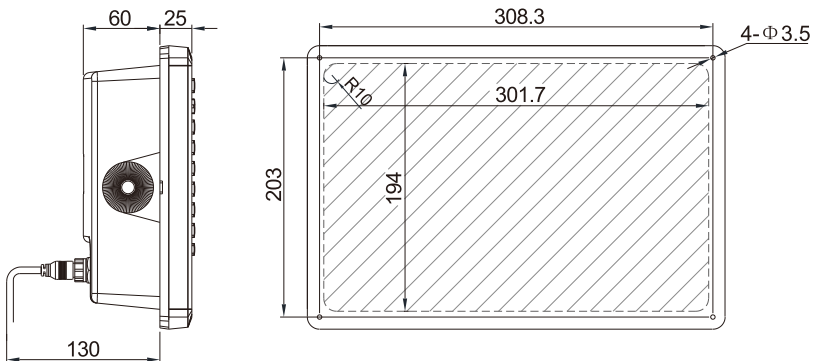
## Flush mounting [unit:mm]



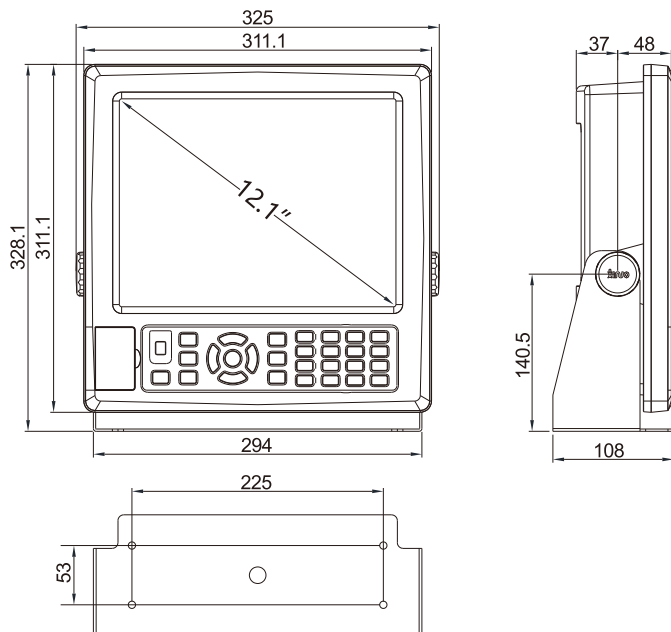
## GN150 (10") Counter mounting [unit:mm]



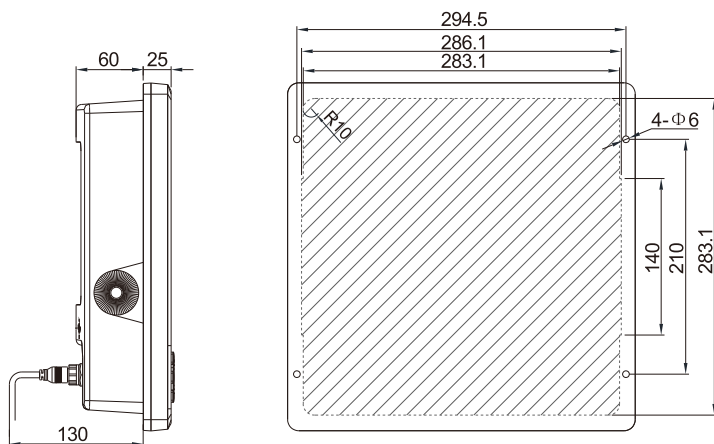
## Flush mounting [unit:mm]



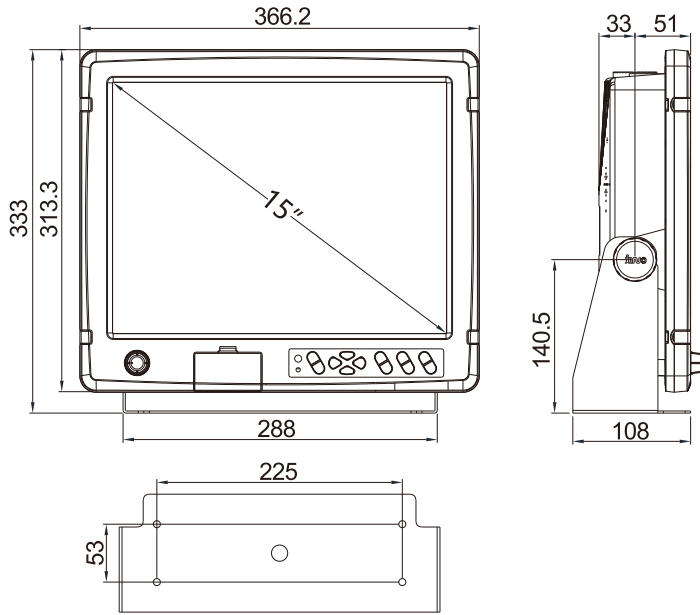
## GN150 (12") Counter mounting [unit:mm]



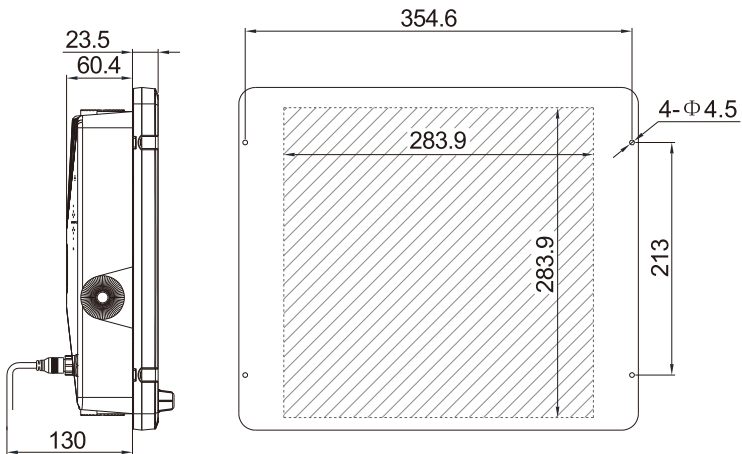
## Flush mounting [unit:mm]



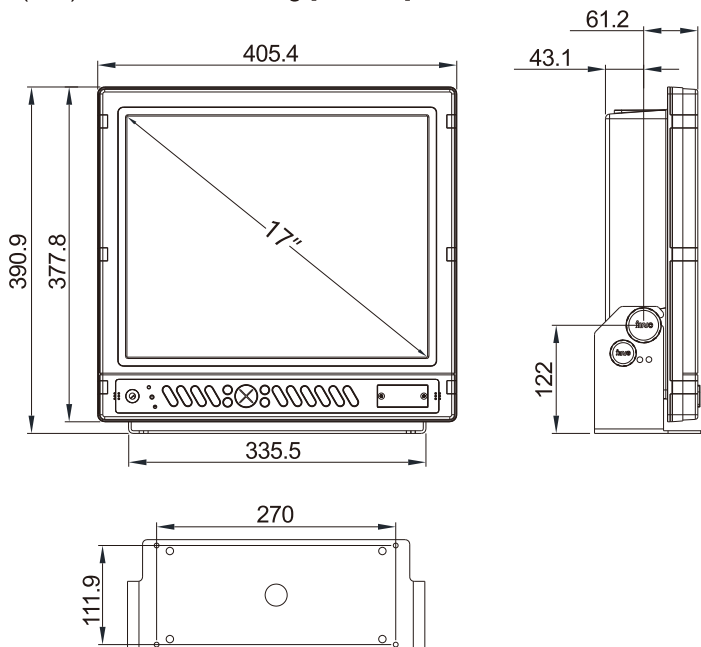
## GN150 (15") Counter mounting [unit:mm]



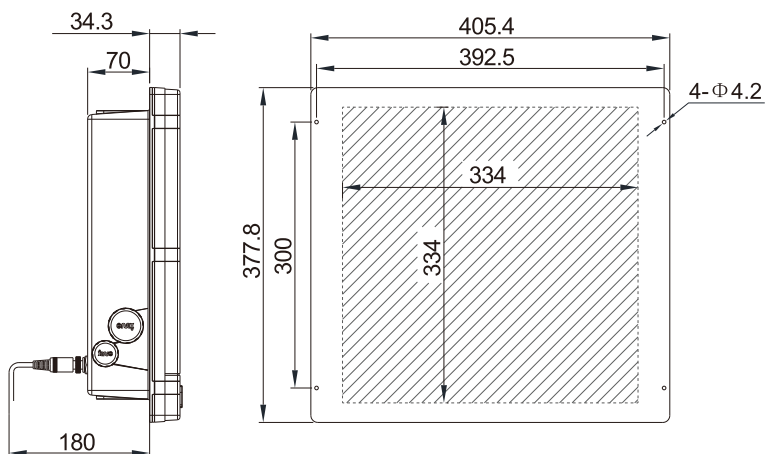
## Flush mounting [unit:mm]



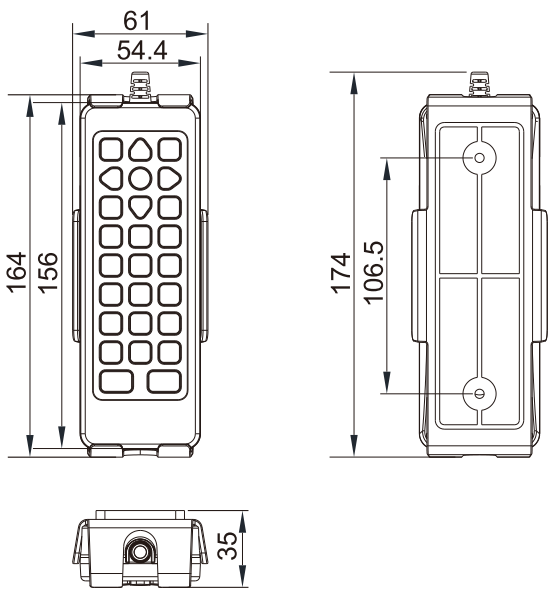
# GN150 (17") Counter mounting [unit:mm]



## Flush mounting [unit:mm]



















4-3 Remote Control Installation





















## 5 Key Description












### 5-1 GN150(7")&GN150(8") Key Description

Key	Function Description
〔PAGE〕 	Select the page to display.
〔MENU〕 	Enter the main menu.
〔CENTER〕 	Center the ship to the screen.
〔ARROW〕 	(1) Moving chart positions; (2) When selecting a menu item, it is used for move focus position and page turning.
〔CLR〕 	Cancel an operation and exit the current operation status.
〔ENT〕 	Confirm to carry out operation.
〔ZOOM OUT〕 	Zoom out chart scale to see a wide range of chart.
〔AIS〕 	Quick access to the AIS list.
〔ZOOM IN〕 	Zoom in chart scale to see a more detailed chart.
〔WPT〕 	Move the cursor to add WPT.
〔ROUTE〕 	Quickly to create a route.
〔MARK〕 	Move the cursor to add mark.
〔ROTATE〕 	Rotate the chart direction, rotating 90° each time.
〔COLOR〕 	Quickly change the current track color.
〔TRACK〕 	Turn on/off track record.
〔NEXT WAYPOINT〕 	When it is on navigation, it navigate to the next waypoint.

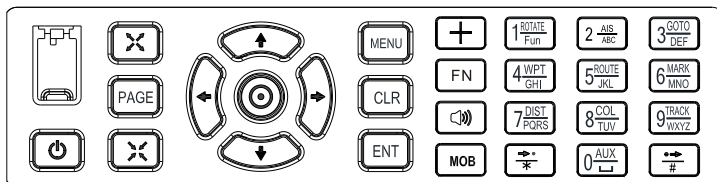
Key	Function Description
<p>[[GOTO]]</p> 	<p>(1) Cursor display Waypoint navigation: Move cursor → press [[GOTO]] to add WPT→ Press [[ENT]] to navigation Cancel navigation: When it is on navigation → press [[CLR]] to cancel navigation. Route navigation: Move cursor → press [[GOTO]] to add multiple waypoints→ press [[ENT]] to navigation. Cancel navigation: When it is on navigation → press [[CLR]] to cancel navigation.</p> <p>(2) The cursor does not display Press [[GOTO]] → 【Menu Go To】 → Press [[GOTO]] to navigation → press [[CLR]] or [[GOTO]] to choose whether to cancel the current navigation.</p>
<p>[[PREVIOUS WAYPOINT]]</p> 	<p>When it is on navigation, it navigate to the previous waypoint.</p>
<p>[[MOB/ALM]]</p> 	<p>Quickly to add MOB.</p>
<p>[[POWER/ BRIGHTNESS]]</p> 	<p>(1) Long press to power off. (2) Device setting and display mode: Double-click the [[POWER]] button → Call up 【Device Settings and Display Mode】 → Press [[↑]] [[↓]] → Select the device setting item → Press [[←]] [[→]] to adjust the parameters.</p>










## 5-2 GN150(10") Key Description













Key	Function Description
[[ZOOM IN]] 	Zoom in chart scale to see a more detailed chart.
[[ZOOM OUT]] 	Zoom out chart scale to see a wide range of chart.
[[CENTER]] 	Center the ship to the screen.
[[ARROW]] 	(1) Move the chart position; (2) When selecting a menu item, it is used for move focus position and page turning.
[[+]] 	Quickly to open/close cursors.
[[PAGE]] 	Select the page to display.
[[MENU]] 	Enter the main menu.
[[CLR]] 	Cancel an operation and exit the current operation status.
[[ENT]] 	Confirm to carry out operation.
[[ROTATE]] 	Rotate the chart direction, rotating 90° each time.
[[AIS]] 	Quickly access to the AIS list.
[[GOTO]] 	<p>(1) Cursor display</p> <p>Waypoint navigation: Move cursor → press [[GOTO]] to add WPT → Press [[ENT]] to navigation</p> <p>Cancel navigation: When it is on navigation → press [[CLR]] to cancel navigation .</p> <p>Route navigation: Move cursor → press [[GOTO]] to add multiple waypoints → press [[ENT]] to navigation.</p> <p>Cancel navigation: When it is on navigation → press [[CLR]] to cancel navigation.</p> <p>(2) The cursor does not display Press [[GOTO]] → 【Menu Go To】 → Press [[GOTO]] to navigation → press [[CLR]] or [[GOTO]] to choose whether to cancel the current navigation.</p>

Key	Function Description
【WPT】 	Move the cursor to quickly add WPT.
【ROUTE】 	Quickly to create a route.
【MARK】 	Move the cursor to quickly add mark.
【DIST】 	Move the cursor → Set the starting point → Move the cursor to the target position → The distance measurement can be realized.
【COL】 	Quickly change of current track color.
【TRACK】 	Turn on/off track record.
【NEXT WAYPOINT】 	When it is on navigation, it navigate to next waypoint.
【AUX】 	Quick open auxiliary page.
【PREVIOUS WAYPOINT】 	When it is on navigation, it navigate to the previous waypoint.
【MOB/ALM】 	Quickly to add MOB.
【POWER/ BRIGHTNESS】 	(1) Long press to power off. (2) Device setting and display mode: Double-click the 【POWER】 button → Call up <b>【Device Settings and Display Mode】</b> → Press 【↑】 【↓】 → Select the device setting item → Press 【←】 【→】 to adjust the parameters.






### 5-3 GN150(12") Key Description



Key	Function Description
[SOS] 	Quickly enter alarm settings.
[POWER] 	(1) Long press to power off. (2) Device setting and display mode: Double-click the [POWER] button → Call up <b>【Device Settings and Display Mode】</b> → Press [↑] [↓] → Select the device setting item → Press [←] [→] to adjust the parameters.
[ZOOM IN] 	Zoom in chart scale to see a more detailed chart.
[PAGE] 	Select the page to display.
[ZOOM OUT] 	Zoom out charts and view large-scale chart.
[CENTER] 	Center the ship to the screen.
[ARROW] 	(1) Moving chart positions (2) When selecting a menu item, it is used for move focus position and page turning.
[MENU] 	Open the main menu.
[CLR] 	Cancel an operation and exit the current operation status.




Key	Function Description
〔ENTER〕 	Confirm to carry out operation.
〔CURSOR〕 	Quickly to open or close the cursor.
〔FN〕 	On charts, enter and exit full-screen chart.
〔SOUND〕 	Adjust the volume.
〔MOB〕 	Quickly to add MOB.
〔ROTATE〕 	Rotate the chart direction, rotating 90° each time.
〔AIS〕 	Quickly access to the AIS list.
〔GOTO〕 	<p>(1) Cursor display  Waypoint navigation:  Move cursor → press 〔GOTO〕 to add WPT→  Press 〔ENT〕 to navigation  Cancel navigation:  When it is on navigation → press 〔CLR〕 to cancel navigation .  Route navigation:  Move cursor → press 〔GOTO〕 to add multiple waypoints → press 〔ENT〕 to navigation.  Cancel navigation:  When it is on navigation → press 〔CLR〕 to cancel navigation.</p> <p>(2) The cursor does not display  Press 〔GOTO〕 → 【Menu Go To】 → Press 〔GOTO〕 to navigation → press 〔CLR〕 or 〔GOTO〕 to choose whether to cancel the current navigation.</p>
〔WPT〕 	Move the cursor to add WPT.
〔ROUTE〕 	Quickly to create a route.
〔MARK〕 	Move the cursor to quickly add mark.
〔DIST〕 	Move the cursor → Set the starting point → Move the cursor to the target position → The distance measurement can be realized.



Key	Function Description
〔COLOR〕 	Quickly change of current track color.
〔TRACK〕 	Turn on/off track record.
〔→●〕 	When it is on navigation, it navigate to next waypoint.
〔AUX〕 	Quickly to open auxiliary page.
〔●→〕 	When it is on navigation, it navigate to the previous waypoint .

5-4 GN150(15") Key Description



Key	Function Description
〔  〕	Zoom in chart scale to see a more detailed chart.
〔  〕	Zoom out charts and view large-scale chart.
〔  〕	(1) Moving chart positions. (2) When selecting a menu item, it is used for move focus position and page turning.
〔MENU〕	Open the main menu.
〔ENT〕	Confirm to carry out operation.
〔PAGE〕	(1) Select the page to display. (2) Cancel an operation and exit the current operation status.
〔GOTO〕	(1) Cursor display Waypoint navigation: Move cursor → press 〔GOTO〕 to add WPT → Press 〔ENT〕 to navigation. Cancel navigation: When it is on navigation → press 〔PAGE〕 to cancel navigation .

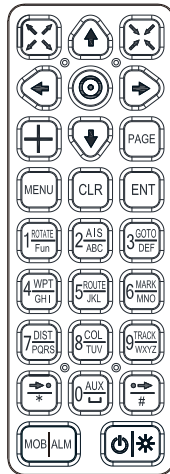
Key	Function Description
【GOTO】	<p>Route navigation: Move cursor → press 【GOTO】 to add multiple waypoints → press 【ENT】 to navigation.</p> <p>Cancel navigation: When it is on navigation → press 【PAGE】 to cancel navigation.</p> <p>(2) The cursor does not display Press 【GOTO】 → 【Menu Go To】 → Press 【GOTO】 to navigation → press 【PAGE】 or 【GOTO】 to choose whether to cancel the current navigation.</p>
【WPT/MOB】	Move the cursor to quickly add MOB.
【TRACK】	Turn on/off track record.

### 5-5 GN150(17") Key Description











Key	Function Description
【POWER】	<p>(1) Rotate to turn on/off;</p> <p>(2) When the device is turned on, rotate to adjust brightness.</p>
【VOLUME】	Adjust the volume.
【ZOOM OUT】	Zoom out chart and view large-scale chart.
【ZOOM IN】	Zoom in chart scale to see a more detailed chart.
【MENU】	Open the main menu.
【ENTER】	Confirm to carry out operation.
【CLR】	Cancel an operation and exit the current operation status.
【○】	Center the ship to the screen.
【↑ ↓ ←→】	<p>(1) Moving chart positions.</p> <p>(2) When selecting a menu item, it is used for move focus position and page turning.</p>
【●→】	When it is on navigation, it navigate to the previous waypoint .
【→●】	When it is on navigation, it navigate to next waypoint.



Key	Function Description
〔CHART〕	Quickly to view chart.
〔AIS〕	Quickly access to the AIS list.
〔TRACKS〕	Turn on/off track record.
〔PAGE〕	Select the page to display.
〔NAVIGATION〕	<p>(1) Cursor display Waypoint navigation: Move cursor → press 〔GOTO〕 to add WPT → Press 〔ENT〕 to navigation. Cancel navigation: When it is on navigation → press 〔CLR〕 to cancel navigation.</p> <p>Route navigation: Move cursor → press 〔GOTO〕 to add multiple waypoints → press 〔ENT〕 to navigation. Cancel navigation: When it is on navigation → press 〔CLR〕 to cancel navigation.</p> <p>(2) The cursor does not display: Press 〔GOTO〕 → 【Menu Go To】 → Press 〔GOTO〕 to navigation → press 〔CLR〕 or 〔GOTO〕 to choose whether to cancel the current navigation.</p>
〔TIDE〕	Quickly open tidal page.
〔ROTATE〕	Rotate the chart direction, rotating 90° each time.
〔DISPLAY MODE〕	Fast switching display mode: Day/Night.
〔COLOR〕	Quickly change the current track color.
〔MOB/ALM〕	Quickly to add MOB.
〔ROUTE〕	Quickly to create a route.
〔WPT〕	Move the cursor to add WPT.
〔MARK〕	Move the cursor to add mark.
〔DIST〕	Move the cursor → Set the starting point → Move the cursor to the target position → The distance measurement can be realized.
USB	Data import, export and upgrade program.

## 5-6 Remote Control Description



Key	Function Description
〔ZOOM IN〕	Zoom chart scale to see a more detailed chart.
〔ZOOM OUT〕	Zoom out charts and view large-scale chart.
〔CENTER〕	Center the ship to the screen.
〔↑ ↓ ←→〕	(1) Moving chart positions and menu item. (2) When selecting a menu item, it is used for move focus position and page turning.
〔CURSOR〕	Quickly to open/close the cursor.
〔PAGE〕	Select the page to display.
〔MENU〕	Open the main menu.
〔CLR〕	Cancel an operation and exit the current operation status.
〔ENTER〕	Confirm to carry out operation.
〔ROTATE〕	Rotate the chart direction, rotating 90° each time.
〔AIS〕	Quickly access to the AIS list.

Key	Function Description
【GOTO】 	<p>(1) Cursor display Waypoint navigation: Move cursor → press 【GOTO】 to add WPT → Press 【ENT】 to navigation. Cancel navigation: When it is on navigation → press 【CLR】 to cancel navigation . Route navigation: Move cursor → press 【GOTO】 to add multiple waypoints → press 【ENT】 to navigation. Cancel navigation: When it is on navigation → press 【CLR】 to cancel navigation.</p> <p>(2) The cursor does not display Press 【GOTO】 → 【Menu Go To】 → Press 【GOTO】 to navigation → press 【CLR】 or 【GOTO】 to choose whether to cancel the current navigation.</p>
【WPT】 	Move the cursor to add WPT.
【ROUTE】 	Quickly to create a route.
【MARK】 	Move the cursor to add mark.
【DIST】 	Move the cursor → Set the starting point → Move the cursor to the target position → The distance measurement can be realized.
【COLOR】 	Quickly change the current track color.
【TRACK】 	Turn on/off track record.
【→●】 	When it is on navigation, it is to navigate to next waypoint.
【AUXILIARY】 	Quickly to open auxiliary page.
【●→】 	When it is on navigation, it is navigate to the previous waypoint.

Key	Function Description
【MOB】 	Quickly to add MOB.
【POWER】 	(1) Long press to power off. (2) Device setting and display mode: Double-click the 【POWER】 button → Call up <b>【Device Settings and Display Mode】</b> → Press 【↑】 【↓】 → Select the device setting item → Press 【←】 【→】 to adjust the parameters.

## 6 Operation Instructions

### 6-1 Track Operation

Track record	Press <b>〔TRACK〕</b> to open the track record. The track number, track color and track capacity are displayed on the lower right corner of the chart .Press again to close the track record.
Track color	Press the <b>〔Color〕</b> button to set the color of the current recorded track. There are 9 colors to choose from, the recording color is displayed on the lower right corner of the chart interface.
Delete track	<p>(1) Press <b>〔MENU〕</b> → Enter <b>【Main Menu】</b> page → Select <b>【Track】</b> → Press <b>〔ENT〕</b> to enter <b>【Track】</b> → Select the track that want to delete → Press <b>〔MENU〕</b> → Pop up <b>【Track Operation】</b> → Select <b>【DeleteTrack】</b> → The track can be deleted.</p> <p>(2) On the chart → Move the cursor → Select the track that want to delete → When the selected track is flashing red and green → Press the <b>〔CLR〕</b> button → Pop up the prompt window → Select <b>【Yes】</b> or press <b>〔ENT〕</b> button → The track can be deleted.</p>

### 6-2 WPT Operation

Add WPT	On the chart → Move the cursor → Press <b>〔WPT〕</b> → Add WPT .
Delete WPT	<p>(1) Press <b>〔MENU〕</b> to enter the <b>【Main Menu】</b> → Select <b>【Edit】</b> → Press <b>〔ENT〕</b> to enter <b>【Edit】</b> page → Select <b>【Waypoint】</b> → Press <b>〔ENT〕</b> to enter the <b>【Waypoint】</b> → Press <b>〔MENU〕</b> → Pop up the <b>【Waypoint Operation】</b> interface → Select <b>【Delete Waypoint】</b> → Press <b>〔ENT〕</b> → The waypoint can be deleted.</p> <p>(2) On the chart → Move the cursor → Select the WPT that want to delete → When the selected has a red and green frame flashing → Press <b>〔CLR〕</b> → Pop up the prompt window → Select <b>【Yes】</b> or press <b>〔ENT〕</b> → The waypoint can be deleted.</p>

### 6-3 Navigation Operation

WPT navigation	<p>(1) On the chart → Move the cursor → Select the waypoint that want to navigate → When the selected has a red and green frame flashing → Press <b>〔GOTO〕</b></p> <p>(2) On the chart → Move the cursor → Select the waypoint that want to navigate → When the selected has a red and green frame flashing → Press <b>〔ENT〕</b> → Pop up the <b>【Waypoint Operation】</b> interface → Select <b>【Navigation】</b> → Press <b>〔ENT〕</b></p> <p>(3) The cursor does not display → Press <b>〔GOTO〕</b> → Pop up the <b>【Menu Go To】</b> menu interface → Select <b>【Waypoint】</b> → Select the waypoint that want to navigate → press <b>〔ENT〕</b></p>
Route navigation	<p>(1) On the chart → Move the cursor → Select the route that want to navigate → When the selected has a red and green frame flashing → Press <b>〔GOTO〕</b> → Select <b>【Forward Navigation】</b> / <b>【Backward Navigation】</b> → Press <b>〔ENT〕</b></p> <p>(2) On the chart → Move the cursor → Select the route that want to navigate → When the selected has a red and green frame flashing → Press <b>〔ENT〕</b> → Pop up the <b>【Route Operation】</b> interface → Select <b>【Forward Navigation】</b> / <b>【Backward Navigation】</b> → Press <b>〔ENT〕</b></p> <p>(3) The cursor does not display → Press <b>〔GOTO〕</b> → Pop up the <b>【Menu Go To】</b> menu interface → Select <b>【Route】</b> → Select the route that want to navigate → press <b>〔ENT〕</b> → Select <b>【Forward Navigation】</b> / <b>【Backward Navigation】</b> → Press <b>〔ENT〕</b></p>

### 6-4 Route Operation

Add route	<p>(1) Press <b>〔ROUTE〕</b> to enter the route creation state → Move the cursor → Press <b>〔Route〕</b> to quickly add node → Move the cursora again → Press <b>〔Route〕</b> to quickly add multiple nodes → Press <b>〔CLR〕</b> to save the route data.</p>
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Add route	<p>(2) The cursor display → Press [ENT] → Pop up [Add...] operation interface → Select [Add Route] to enter the route creation state → Press [ROUTE] to quickly add node → Move the cursora again → Press [ROUTE] to quickly add multiple nodes → Press [CLR] to save the route data.</p> <p>(3) Press [MENU] → Select [Edit] → Press [ENT] to enter [Edit] page → Select [Route ] → Press [ENT] to enter the [Route ] → Press [MENU] → Pop up the [Route Operation] interface → Select [New] to enter [Add Route] page → Press [MENU] → Pop up [Node Operation] → Select [Add Node] or [Insert Node]</p>
Delete route	<p>(1) On the chart → Move the cursor → Select the route that want to delete → When the selected has a red and green frame flashing → Press [CLR] → Pop up the prompt window for deleting the route → Select [Yes] or press [ENT] → The route can be deleted.</p> <p>(2) Press [MENU] to enter the [Main Menu] → Select [Edit] → Press [ENT] to enter [Edit] page → Select [Route ] → Press [ENT] to enter the [Route ] → Press [MENU] → Pop up the [Route Operation] interface → Select [Delete ] → Press [ENT] → The route can be deleted.</p>

### 6-5 Mark Operation

Add mark	On the chart → Move the cursor → Press [MARK] → Add mark .
Delete mark	<p>(1) On the chart → Move the cursor → Select the mark that want to delete → When the selected has a red and green frame flashing → Press [CLR] → Pop up the prompt window for deleting the makr → Select [Yes] or press [ENT] → The mark can be deleted.</p> <p>(2) Press [MENU] to enter the [Main Menu] → Select [Edit] → Press [ENT] to enter [Edit]</p>

Delete mark	page → Select <b>【Mark】</b> → Press <b>〔ENT〕</b> to enter the <b>【Mark】</b> → Press <b>〔MENU〕</b> → Pop up the <b>【Mark Operation】</b> interface → Select <b>【Delete】</b> → Press <b>〔ENT〕</b> → The mark can be deleted.
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## 6-6 Display Mode and Brightness Setting

Display mode	Double-click the <b>〔POWER〕</b> → Pop up <b>【Device Settings and Display Mode】</b> → Select the <b>【Display Mode】</b> → Press <b>〔←〕</b> <b>〔→〕</b> to select the display mode.
Brightness setting	Double-click the <b>〔POWER〕</b> → Pop up <b>【Device Settings and Display Mode】</b> → Select the <b>【LCD Brightness】</b> → Press <b>〔←〕</b> <b>〔→〕</b> to adjust the brightness.

## 6-7 AIS List

AIS ship operation on chart	On the chart → Move the cursor → Select an AIS target → Pop up the AIS message → Press the <b>〔ENT〕</b> → Pop up the operation menu → select <b>【Join Monitor/Send/Start Trace/Track Display/Details】</b>
AIS list sort	Press <b>〔MENU〕</b> → Pop up the <b>【Main Menu】</b> → Select <b>【AIS】</b> → Select <b>【AIS List】</b> → Press <b>〔ENT〕</b> to enter the AIS list → Press <b>〔MENU〕</b> to pop up the AIS operation menu → Select <b>【Sort】</b> → Select <b>【MMSI/Distance/SOG/COG/Name】</b> .
View ship details in the list	Press <b>〔MENU〕</b> → Pop up the <b>【Main Menu】</b> → Select <b>【AIS】</b> → Select <b>【AIS List】</b> → Press <b>〔ENT〕</b> to enter the AIS list → Select select an AIS target → Press <b>〔MENU〕</b> to pop up the AIS operation menu → Select <b>【Detail】</b> → press <b>〔ENT〕</b> to view the detail information.
View AIS vessel chart location	Press <b>〔MENU〕</b> → Pop up the <b>【Main Menu】</b> → Select <b>【AIS】</b> → Select <b>【AIS List】</b> → Press <b>〔ENT〕</b> to enter the AIS list → Select an AIS target → Press <b>〔MENU〕</b> to pop up the AIS operation menu → Select <b>【View】</b> → Press the <b>〔ENT〕</b> to jump to the position of the ship on the chart.

## 6-8 AIS Fleet Management

Join monitoring	<p>(1) On the chart → Move the cursor → Select an AIS target → Pop up the AIS message → Press the [ENT] → Pop up the operation menu → Select [Add Monitor]</p> <p>(2) Press [MENU] → Pop up the [Main Menu] → Select [AIS] → Select [AIS List] → Press [ENT] to enter the AIS list → Select an AIS target → Press [MENU] to pop up the AIS operation menu → Select [Join Monitoring] → Press the [ENT] to join monitoring.</p>
Modify group settings	<p>Press [MENU] → Pop up the [Main Menu] → Select [AIS] → Select [Fleet Management] → Press [ENT] to open [Fleet Management] page → Select an AIS fleet → Press [MENU] to pop up the [Fleet Operation] → Press [ENT] to enter the fleet settings page.</p>
Modification group membership	<p>Press [MENU] → Pop up the [Main Menu] → Select [AIS] → Select [Fleet Management] → Press [ENT] to open [Fleet Management] page → Select an AIS fleet → Press [ENT] to enter the [AIS Fleet Member] → Press [MENU] to pop up the [Member Operation] settings page.</p>

## 6-9 Network Management

WiFi connection	<p>Press [MENU] → Pop up the [Main Menu] → Select [Settings] → Press [ENT] to enter the [Settings] page → Select [WLAN Settings] to connect to the network.</p>
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## 7 Upgrade Instructions

### 7-1 Local Upgrade

Use the USB flash drive to upgrade the software, it can retain the original data, such as: track, route and other data. You can upgrade the software by following these steps.

(1) Format the USB disk to FAT32 format

(2) Update File Download

You can find the upgrade link on the official website of Xinuo Information Technology (Xiamen) Corporation Limited or the Wechat Public Number (or from the dealer). Click the download link to download update file.

(3) Unzip Files

(4) Upgrade Software

- ① Turn off the device.
- ② Insert the USB disk into the USB port.
- ③ Restart the device, the upgrade process and information will be displayed automatically on the screen, indicating that the device is upgrading the program.
- ④ After the upgrade is completed, upgrade successfully will be reminded on the screen. Please unplug the USB disk and restart the device again.

After completing these steps, the device upgrade is successful.

### 7-2 Online Upgrade

(1) Connect WiFi on the WiFi management page.

(2) When reboot the device or every 24 hours, it will automatically detect whether there is a new version. When a new version can be updated, a prompt window will pop up. Press the **〔ENT〕** to update it.

(3) You can also press the **〔Menu〕** to enter the main menu, select **〔Auxiliary〕** , and then select **〔Version Update〕** to manually check and update.

## 8 Parameter Configuration

Display Unit	GN150(7")		GN150(8")	GN150(10")
Display Type	Color TFT LCD			
Display Size	7 inch		8 inch	10 inch
Display Resolution	800*480		800*480	800*600
Display Brightness	500cd/m <sup>2</sup>		450cd/m <sup>2</sup>	300cd/m <sup>2</sup>
Language	English, Simplified Chinese, Traditional Chinese, Greece, Vietnamese, Malaysia, Korea, Turkish, Thailand, Indonesian, Japanese, Spain, Arabic, Arabic, Persian, French			
Display Modes	Standard Chart, Pure Chart, Simple Chart, AIS Data, Sailing Data, GNSS, 3D Navigation, Compass			
Memory Capacity	50,000 waypoints, 50,000 markers, 500 routes, one route indicate 200 WPT, 1000 tracks, 1600000 track points			
Interface	2 Ports NMEA0183 Output, 2 Ports NMEA0183 Input (independent of each other, baud rate can be set independently)			3 Ports NMEA0183 Output, 3 Ports NMEA0183 Input (independent of each other, baud rate can be set independently)
Power Supply	DC10V~36V			DC12V~36V
Power Consumption	less than 5.5W	less than 9.12W		less than 8.5W
WiFi	802.11 b/g/n			
Enviromental				
Working Temperature	-15°C~+55°C			
Storage Temperature	-20°C~+60°C			
Waterproofing	IP65			
GNSS				
GNSS Receiver	72 Channels			
Receive Frequency	GPS L1: 1575.42MHz; BDS B1: 1561.098MHz			
Positioning 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			
Standards				
IMO Resolution A.694(17), Resolution MSC 112(73), IMO MSC Resolution 379(93), IMO MSC Resolution 401(95), IMO MSC Resolution 432(98) , IEC 61108-1, IEC 62288, IEC60945, IEC 61162-1				

Display Unit	GN150(12")	GN150(15")	GN150(17")
Display Type	Color TFT LCD		
Display Size	12.1 inch	15 inch	17 inch
Display Resolution	800*600	1024*768	1280*1024
Display Brightness	400cd/m <sup>2</sup>	450cd/m <sup>2</sup>	500cd/m <sup>2</sup>
Language	English, Simplified Chinese, Traditional Chinese, Greece, Vietnamese, Malaysia, Korea, Turkish, Thailand, Indonesian, Japanese, Spain, Arabic, Arabic, Persian, French		
Display Modes	Standard Chart, Pure Chart, Simple Chart, AIS Data, Sailing Data, GNSS, 3D Navigation, Compass		
Memory Capacity	50,000 waypoints, 50,000 markers, 500 routes, one route indicate 200 WPT, 1000 tracks, 1600000 track points		
Interface	3 Ports NMEA0183 Output, 3 Ports NMEA0183 Input (independent of each other, baud rate can be set independently)		
Power Supply	DC12V~36V		DC12V~36V
Power Consumption	less than 10W	less than 12W	less than 15W
WiFi	802.11 b/g/n		
Enviromental			
Working Temperature	-15°C~+55°C		
Storage Temperature	-20°C~+60°C		
Waterproofing	IP65		
GNSS			
GNSS Receiver	72 Channels		
Receive Frequency	GPS L1: 1575.42MHz; BDS B1: 1561.098MHz		
Positioning 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		
Standards			
IMO Resolution A.694(17), Resolution MSC 112(73), IMO MSC Resolution 379(93), IMO MSC Resolution 401(95), IMO MSC Resolution 432(98) , IEC 61108-1, IEC 62288, IEC60945, IEC 61162-1			

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