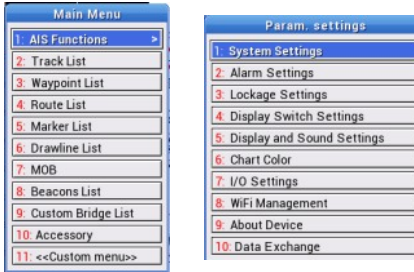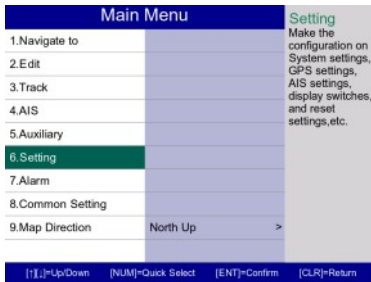# AIS Class B & Chart Plotter

Quick Reference V1.1

Before using this product manual (Quick Reference), please confirm the menu style of your device. If you use the classic mode, please refer to the operating instructions of the classic mode, if you use the utility mode, please refer to the operating instructions of the utility mode.

classic mode menu style

utility mode menu styles

INTRODUCTION

Information in this manual is subject to update without notice. XINUO reserves the right to change or update the contents without obligation to notify any person or organizations. You can visit the XINUO web site: www.xinuo.com to know the latest updated information and operation of this and other XINUO products.

STATEMENTS

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

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:

☐ XF-608　　☐ XF-607B

☐ XF-808　　☐ XF-808B

☐ XF-1069　☐ XF-1069B

CAUTIONS

Before turn on the unit, 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 unit 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 unit, or this might cause damage or short circuit.

5. Do not place the unit 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 unit 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 unit 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.

Contents

1 Product Introduction

The Class B AIS&Chart Plotter suppports GPS and BDS dual mode positioning system which can provide more accurate location data, SOG, COG, etc. It builts in Class B AIS module to offer safety navigation information for reference. The software supports multi-language display .

2 Standard Configuration

ID	Name	Quantity
1	Display	1
2	Bracket	1
3	Power Cable (2M)	1
4	Data Cable (1.2M)	1
5	GNSS Antenna (8M)	1
6	Large Knob	2
7	Rubber Gasket (for 7 inch, 8 inch)	2
8	Rubber Gasket (for 10-inch)	4
9	3*20 Screw	4
10	4.8*20 Screw (for 7 inch, 8 inch)	4
11	4.2*20 Screw (for 10 inch)	4
12	Quick Reference	1

3 System Connection Diagram and Serial Port Definition

3-1 Serial Port Setting Instructions

3-1-1 Classic Mode

Operation:

(1) Press 〖MENU〗 twice-- 【I/0 Settings】 -- 【Signal Detection】, you can view the input and output sentences.

(2) Press 〖MENU〗 twice-- 【I/0 Settings】 -- 【Statement and Baud Rate Settings】, you can set the baud rate of NMEA0183 and set the output sentences.

(3) NMEA0183 default output are RMC, GGA, GLL, VTG, APA, APB, BWC, XTE, RMB, BOD.

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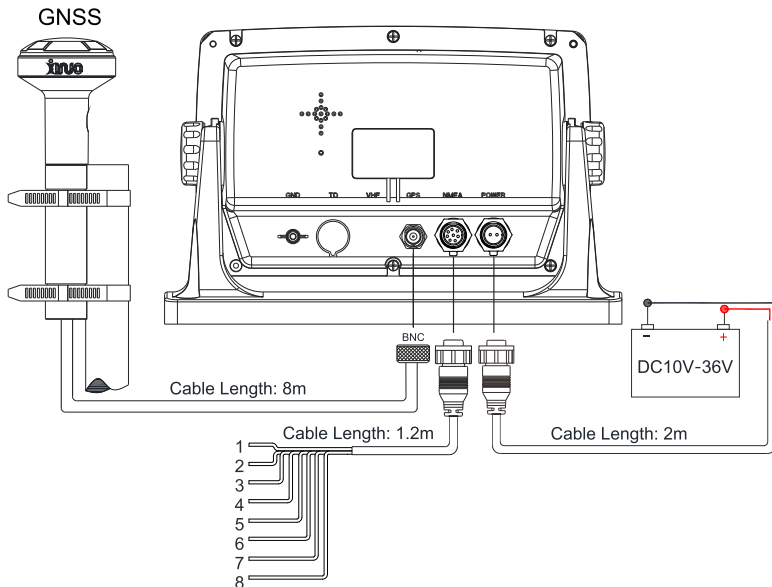

3-1-2 Utility Mode

Operation:

(1) 【Main Menu】 -- 【Setting】 -- 【Input and Output Port】 -- 【Signal Detection】, you can view input and 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】 -- 【Output Settings】, you can set the output sentences.

NMEA0183 default output sentences: APB, GGA, GLL, RMC, VTG, XTE, ZDA

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

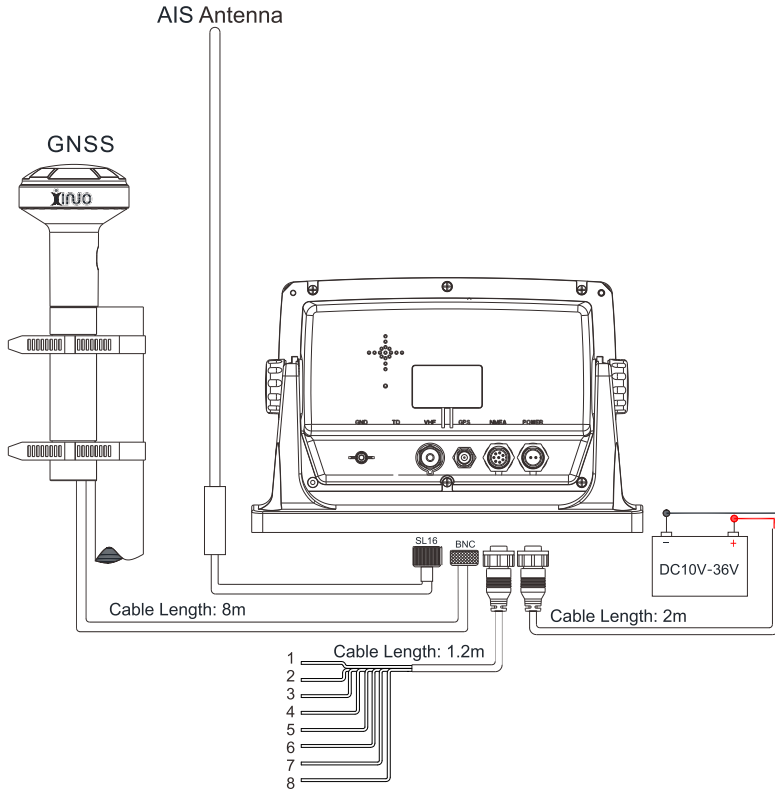## 3-2 System Connection Diagram and Serial Port Definition

(1) XF-608

GNSS

BNC

Cable Length: 8m

Cable Length: 1.2m

Cable Length: 2m

DC10V-36V

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX2-
2.Qrange NMEA0183_TX2+ (0183 output 1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (0183 output 2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (0183 input 1)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS input)

Utility mode
1.Brown   NMEA0183_TX2-
2.Qrange NMEA0183_TX2+ (NMEA1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (NMEA2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (NMEA3)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS input)

3

(2) XF-607B

AIS Antenna

GNSS

SL16   BNC

DC10V-36V

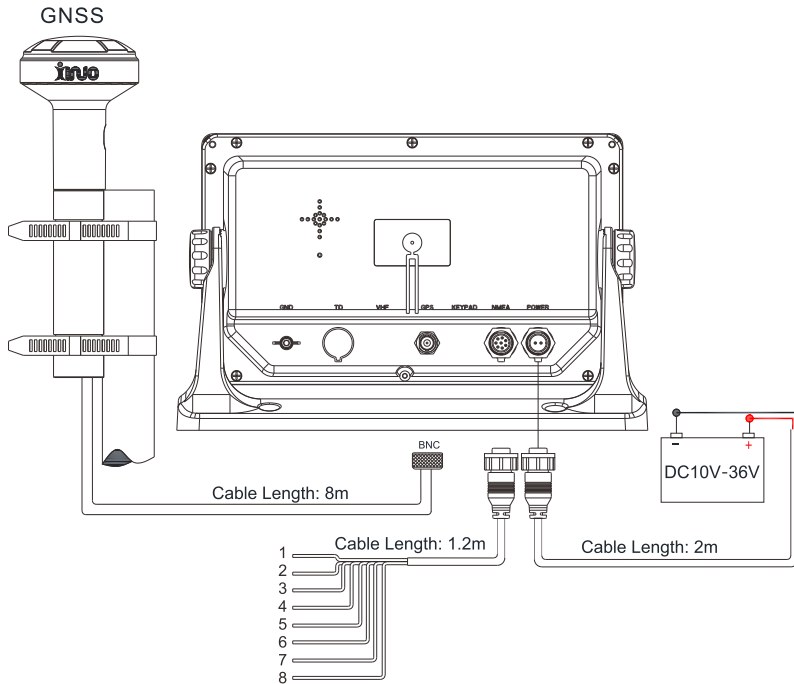Cable Length: 8m

Cable Length: 2m

Cable Length: 1.2m

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange NMEA0183_TX1+
3.Yellow   NMEA0183_TX3- (0183 output 1)
4.Green   NMEA0183_TX3+
5.Blue   NMEA0183_RX4- (0183 input 2)
6.White   NMEA0183_RX4+
7.Black   NMEA0183_RX2- (0183 input 1)
8.Red   NMEA0183_RX2+

Utility mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange NMEA0183_TX1+
3.Yellow   NMEA0183_TX3- (NMEA2)
4.Green   NMEA0183_TX3+
5.Blue   NMEA0183_RX4- (NMEA3)
6.White   NMEA0183_RX4+
7.Black   NMEA0183_RX2- (NMEA1)
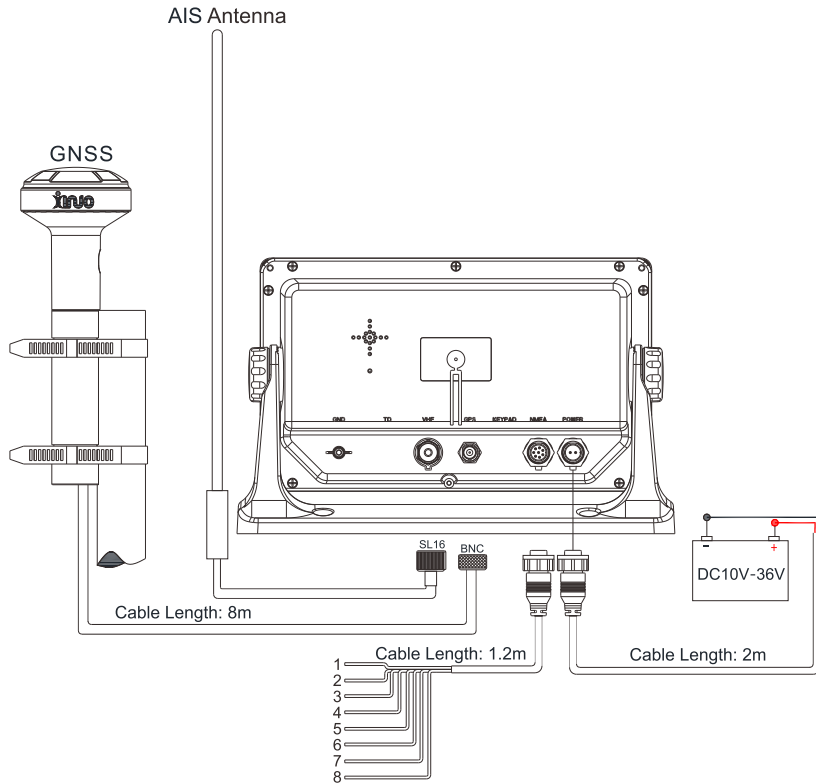8.Red   NMEA0183_RX2+

4

(3) XF-808

GNSS

BNC

DC10V-36V

Cable Length: 8m

Cable Length: 1.2m

Cable Length: 2m

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX2-
2.Qrange NMEA0183_TX2+ (0183 output 1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (0183 output 2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (0183 input 1)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS input)

Utility mode
1.Brown   NMEA0183_TX2-
2.Qrange NMEA0183_TX2+ (NMEA1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (NMEA2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (NMEA3)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS input)

5

(4) XF-808B

AIS Antenna

GNSS

SL16 BNC

DC10V~36V
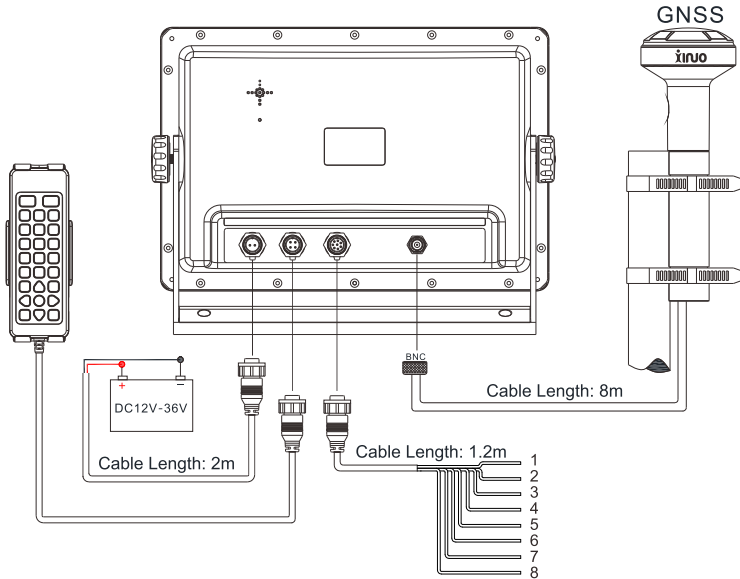
Cable Length: 8m

Cable Length: 1.2m

Cable Length: 2m

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange   NMEA0183_TX1+
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (0183 output 1)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (0183 input 2)
7.Black   NMEA0183_RX2-
8.Red   NMEA0183_RX2+ (0183 input 1)

Utility mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange   NMEA0183_TX1+
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (NMEA2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (NMEA3)
7.Black   NMEA0183_RX2-
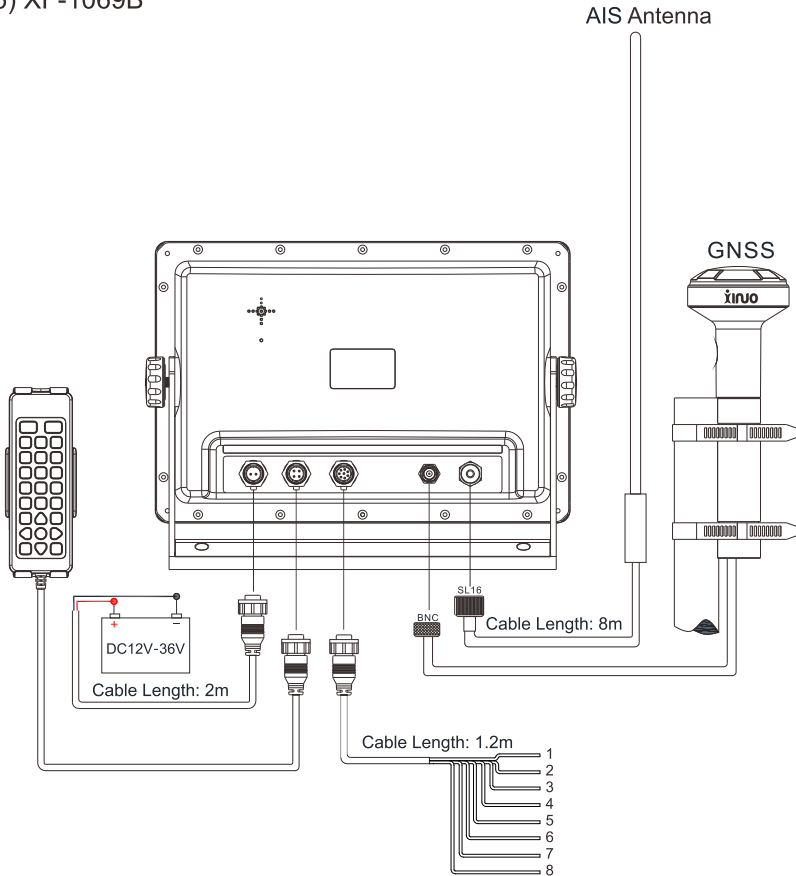8.Red   NMEA0183_RX2+ (NMEA1)

6

(5) XF-1069

GNSS

BNC

DC12V-36V

Cable Length: 2m

Cable Length: 8m

Cable Length: 1.2m

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX2-
2.Qrange   NMEA0183_TX2+ (0183 output 1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (0183 output 2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (0183 input 1)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS Input)

Utility mode
1.Brown   NMEA0183_TX2-
2.Qrange   NMEA0183_TX2+ (NMEA1)
3.Yellow   NMEA0183_TX3-
4.Green   NMEA0183_TX3+ (NMEA2)
5.Blue   NMEA0183_RX4-
6.White   NMEA0183_RX4+ (NMEA3)
7.Black   NMEA0183_RX1-
8.Red   NMEA0183_RX1+ (AIS input)

7

(6) XF-1069B

AIS Antenna

GNSS

DC12V-36V

Cable Length: 2m

SL16

BNC

Cable Length: 8m

Cable Length: 1.2m

1
2
3
4
5
6
7
8

Classic mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange NMEA0183_TX1+
3.Yellow   NMEA0183_TX3- (0183 output 1)
4.Green   NMEA0183_TX3+
5.Blue   NMEA0183_RX4- (0183 input 2)
6.White   NMEA0183_RX4+
7.Black   NMEA0183_RX2- (0183 input 1)
8.Red   NMEA0183_RX2+

Utility mode
1.Brown   NMEA0183_TX1- (AIS output)
2.Orange NMEA0183_TX1+
3.Yellow   NMEA0183_TX3- (NMEA2)
4.Green   NMEA0183_TX3+
5.Blue   NMEA0183_RX4- (NMEA3)
6.White   NMEA0183_RX4+
7.Black   NMEA0183_RX2- (NMEA1)
8.Red   NMEA0183_RX2+
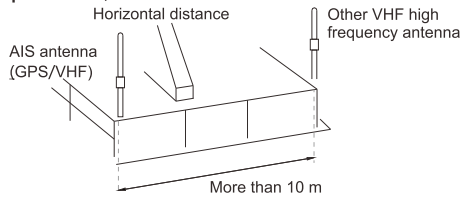
8

4 Installation Instructions

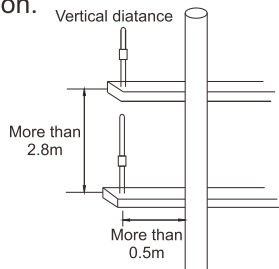## 4-1 Antenna Installation

4-1-1 VHF Antenna Installation

Method 1: Horizontal installation

[1] VHF antenna should be installed in the level 360º 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.
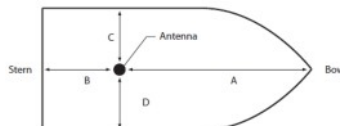
Horizontal distance   Other VHF high
                                       frequency antenna
AIS antenna
(GPS/VHF)

More than 10 m

Method 2: Vertical installation

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

Vertical diatance

More than
2.8m

More than
0.5m
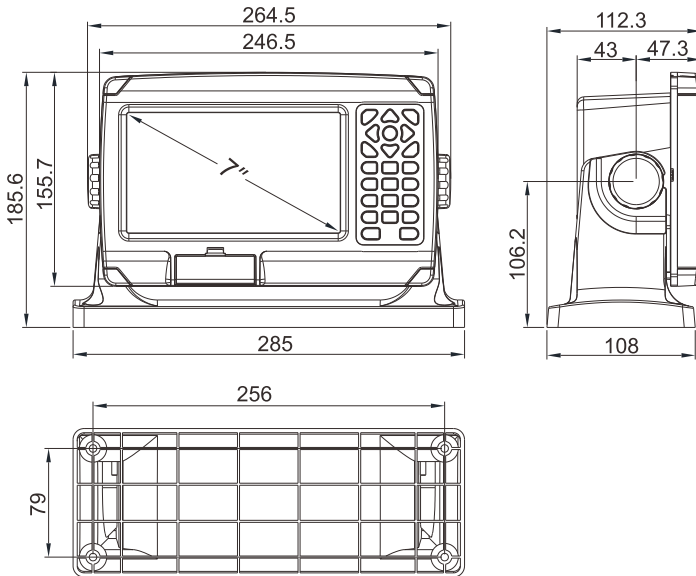
4-1-2 GNSS Antenna Installation

GNSS antenna should be without continuous obstacles in the level 360º, 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.

C — Antenna

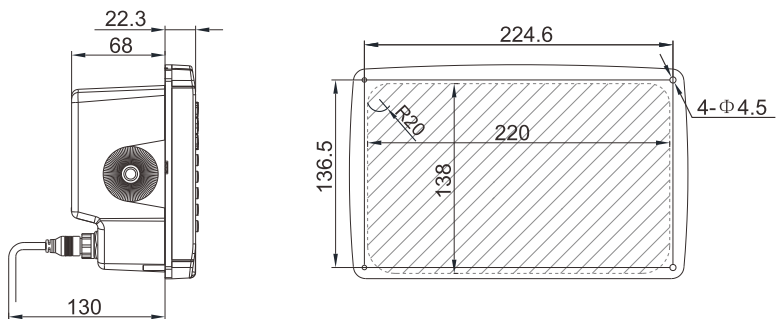Stern   B   A   Bow

D

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4-2 Machine Installation
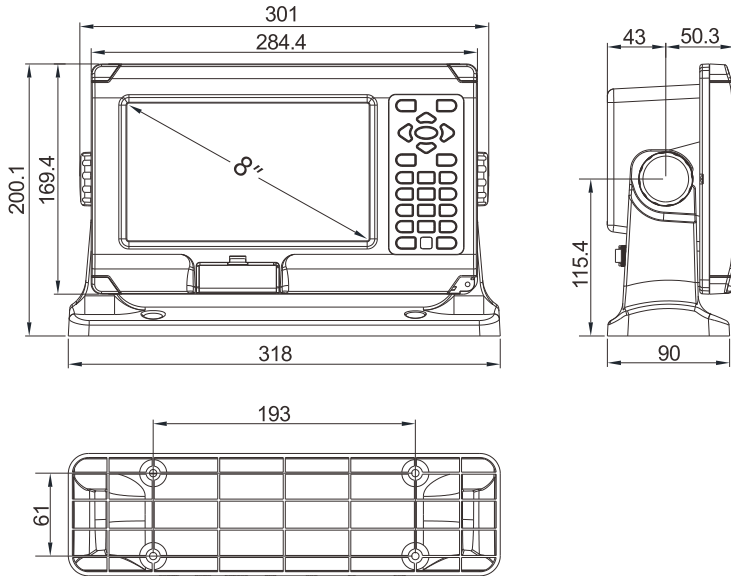
XF-608&XF-607B Counter mounting
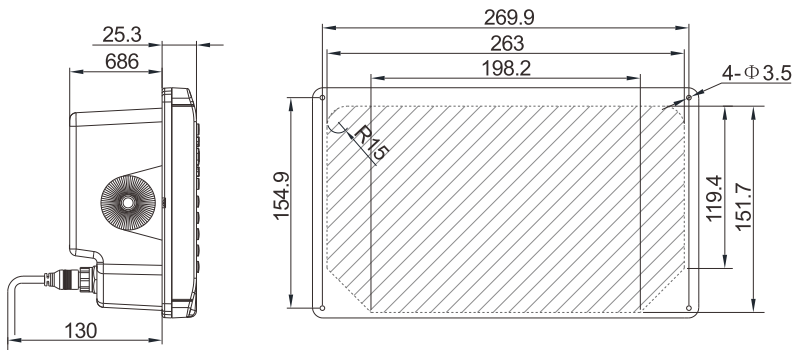
[unit: mm]

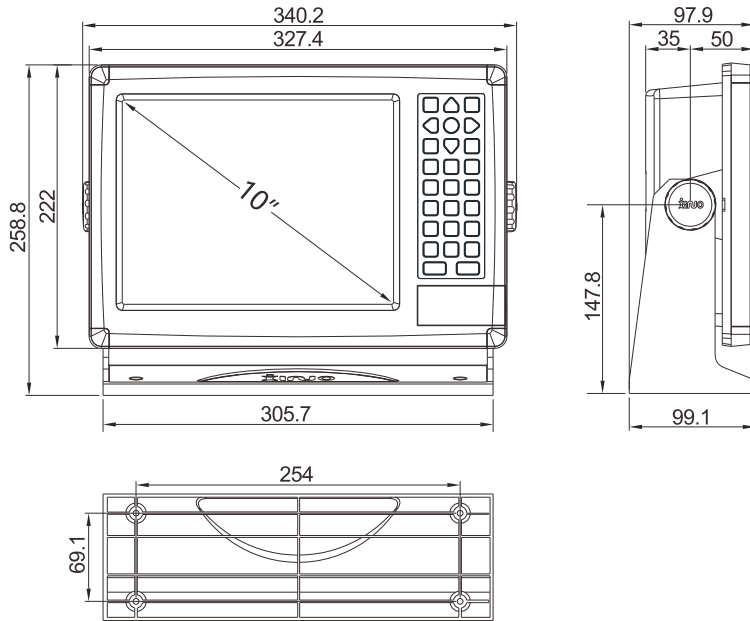Flush mounting [unit:mm]

10

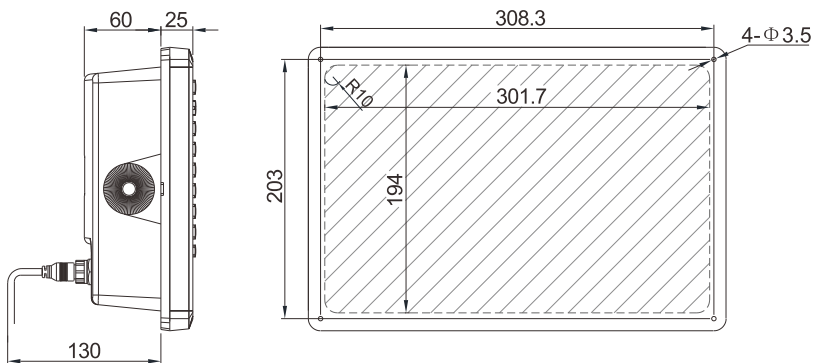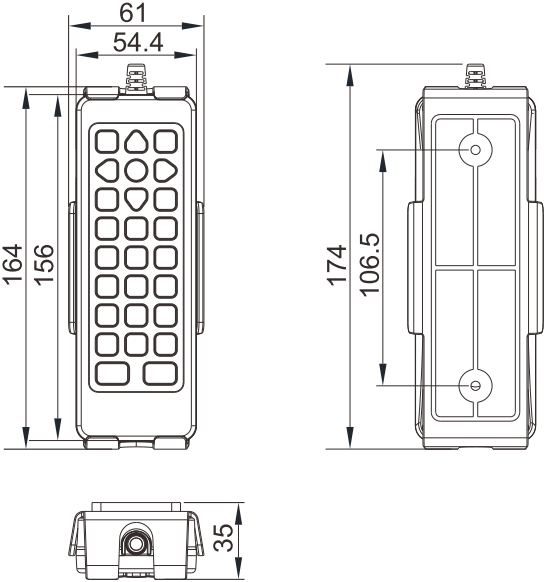## XF-808&XF-808B Counter mounting [unit:mm]

Flush mounting [unit:mm]

XF-1069&XF-1069B Counter mounting [unit:mm]

Flush mounting [unit:mm]

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4-3 Remote Control Installation

5 Key Description

5-1 XF-607B&XF-608&XF-808&XF-808B Key Definition

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〗	Zoon out chart scale and view a wide range of chart.
〖AIS〗	Quickly access to the AIS list.
〖ZOOM IN〗	Zoom in chart scale to see a more detailed chart.
〖WPT〗	Move the cursor to quickly add WPT.
〖ROUTE〗	Quickly to create a route.
〖MARK〗	Move the cursor to quickly add mark.
〖ROTATE〗	Rotate the chart direction, rotating 90° each time.
〖COLOR〗	Quickly change the current track color.
〖TRACK〗	Turn on/off track records.
〖NEXT WAYPOINT〗	**Classic mode:** (1) When it is on navigation, it navigate to next waypoint. (2) When it is not on navigation, it is to set the display mode: Auto/Normal/Day/Gray/Night/Recovery. (3) When editing, it is used to switch input symbols and characters.

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Key	Function Description
〖NEXT WAYPOINT〗	**Utility mode:** When it is on navigation, it navigate to next waypoint.
〖GOTO〗	**Classic mode:** Quickly to select WPT, route to navigation.
	Utility mode: (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. (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.
〖PREVIOUS WAYPOINT〗	**Classic mode:** (1) When it is on navigation, it navigate to the 　　previous waypoint (2) When it is not on navigation, it is used for quickly 　　measuring distance.
	Utility mode: When it is on navigation, it navigate to the previous waypoint.
〖MOB\ALM〗	Quickly to add MOB.

Key	Function Description
〖POWER/ BRIGHTNESS〗 ⏻❋	**Classic mode:** (1) Short press to adjust screen brightness. (2) Long press to power off.
	Utility mode: (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.

5-2 XF-1069&XF-1069B & Remote Control

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 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.
〖ROT〗	Rotate the chart direction, rotating 90° each time.
〖AIS〗	Quickly access to the AIS list.
〖GOTO〗	**Classic mode:** Quickly to select WPT, route to navigation.
	Utility mode: (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.

Key	Function Description
〖GOTO〗 🔳	Cancel navigation: When it is on navigation → press 〖CLR〗 to cancel navigation. (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.
〖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 records.
〖NEXT WAYPOINT〗 🔳	**Classic mode:** (1) When it is on navigation, it navigate to next waypoint. (2) When it is not on navigation, it is to set the display mode: Auto/Normal/Day/Gray/Night/Recovery. (3) When editing, it is used to switch input symbols and characters.
	Utility mode: When it is on navigation, it navigate to next waypoint.
〖AUX〗 🔳	Quickly to open auxiliary page.

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Key	Function Description
〖PREVIOUS WAYPOINT〗	**Classic mode:** (1) When it is on navigation, it is navigate to the previous waypoint. (2) When it is not on navigation, it is used for quickly measuring distance.
	Utility mode: When it is on navigation, it navigate to the previous waypoint.
〖MOB\ALM〗	For quick add MOB.
〖POWER/ BRIGHTNESS〗	**Classic mode:** (1) Press to adjust screen brightness. (2) Long presses to power off.
	Utility mode: (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.

6 Operation Instructions
6-1 Track Operation

Track record	Press the 〚Track〛 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	**Classic mode:** Press 〚Color〛 to set the color of the current record track. There are 8 colors to choose from, the recording color is displayed on the lower right corner of the chart interface.
	Utility mode: Press the 〚COLOR〛 button to set the color of the current recorded track. There are 9 colors to choose from, which are displayed in the lower right corner of the chart interface.
Delete track	**Classic mode:** (1) Press 〚MENU〛 → Enter 【Main Menu】 page → Select 【Track List】 → Press 〚ENT〛 to enter 【Track List】 → Select the track that want to delete → Press 〚ENT〛 → Pop up 【Track Operation】 → Select 【DeleteTrack】 → The track can be deleted. (2) On the chart → Move the cursor → Select the track that want to delete → Press the 〚ENT〛 button → Pop up 【Track Operation】 → Select 【DeleteTrack】 → The track can be deleted.
	Utility mode: (1) Press 〚MENU〛 → Enter 【Main MENU】 page → Select 【Track】 → Press 〚ENT〛 to enter 【Track】 → Select the track that want to delete → Press 〚MENU〛 → Pop up 【Track Operation】 → Select 【DeleteTrack】 → The track can be deleted. (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 〚CLR〛 button → Pop up the prompt window → Select 【Yes】 or press 【ENT】 button → The track can be deleted.

6-2 WPT Operation

Add WPT	On the chart → Move the cursor → Press 〖WPT〗 → Add WPT .
Delete WPT	**Classic mode:** (1) Press 〖MENU〗 to enter the【Main Menu】→ Select the【Waypoint List】 → Press 〖ENT〗 to enter the【Waypoint List】→ Select the waypoint that want to delete → Press 〖ENT〗 → Pop up 【Waypoint Operation】 → select【Delete Waypoint】 (2) On the chart → Move the cursor → Select the waypoint that want to delete → Press 〖ENT〗 → Pop up【Waypoint Operation】→ Select【Delete Waypoint】. **Utility mode:** (1) Press 〖MENU〗 to enter the【Main Menu】→ Select【Edit】 → Press 〖ENT〗 to enter【Edit】page → Select【Waypoint 】 → Press 〖ENT〗 to enter the【Waypoint 】 → Press 〖MENU〗 → Pop up the【Waypoint Operation〗 interface → Select【Delete Waypoint】 → Press 〖ENT〗 → The waypoint can be deleted. (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 〖CLR〗 → Pop up the prompt window → Select【Yes】 or press 〖ENT〗 → The waypoint can be deleted.

6-3 Navigation Operation

WPT navigation	**Classic mode:** (1) On the chart → Move the cursor → Select the waypoint that want to navigate → Press 〖ENT〗 → Pop up the【Waypoint Operation】 interface → Select【Call Waypoint】 → Press 〖ENT〗. (2) Press 〖GOTO〗 → Pop up the【Call Navi Data】menu interface → Select【Call Waypoint】→ Press 〖↓〗 to enter the input box → Input the waypoint number that want to to navigate → Press 〖ENT〗.

WPT navigation	**Utility mode:** (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〖GOTO〗 (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〖ENT〗→ Pop up the【Waypoint Operation】interface → Select【Navigation】→ Press〖ENT〗 (3) The cursor does not display → Press〖GOTO〗→ Pop up the【Menu Go To】menu interface → Select【Waypoint】→ Select the waypoint that want to navigate → press〖ENT〗
Route navigation	**Classic mode:** (1) Press〖GOTO〗to enter the【Call Navi Data】→ Press〖←〗and〖→〗to select【Forward Navigation】/【Reverse Navigation】→ Enter the input box → Input the route number that want to navigate → Press〖ENT〗 (2) On the chart → Move the cursor → Select the route that want to navigate → Press〖ENT〗→ Pop up the route operation interface → Select【Forward Navigation】/【Reverse Navigation】→ Press〖ENT〗
	Utility mode: (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〖GOTO〗→ Select【Forward Navigation】/【Backward Navigation】→ Press the〖ENT〗 (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〖ENT〗→ Pop up the【Route Operation】interface → Select【Forward Navigation】/【Backward Navigation】→ Press〖ENT〗

Route navigation	(3) The cursor does not display → Press 〖GOTO〗 → Pop up the 【Menu Go To】 menu interface → Select 【Route】 → Select the route that want to navigate → press 〖ENT〗 → Select 【Forward Navigation】 / 【Backward Navigation】 → Press 〖ENT〗

6-4 Route Operation

Add route	**Classic mode:** (1) Press 〖ROUTE〗 to enter the route creation state → Move the cursor → Press 〖WPT〗 to quickly add node → Move the cursora again → Press 〖WPT〗 to quickly add multiple nodes → Press 〖ROUTE〗 to save the route data. (2) The cursor display → Press 〖ENT〗 → Pop up 【Add...】 operation interface → Select 【Add Route】 to enter the route creation state → Press 〖WPT〗 to quickly add node → Move the cursora again → Press 〖WPT〗 to quickly add multiple nodes → Press 〖ROUTE〗 to save the route data or press 〖CLR〗 to quit route editing. (3) Press 〖MENU〗 → Select 【Route List】 → Press 〖ENT〗 to enter the 【Route List】 → Press 〖ENT〗 → Pop up the 【Route Operation】 interface → Select 【Add Route】 to enter 【Route Node List】 → Press 〖ENT〗 → Pop up 【Node Operation】 → Select 【Create New Node】 or 【Insert the Waypoint】
	Utility mode: (1) Press 〖ROUTE〗 to enter the route creation state → Move the cursor → Press 〖Route〗 to quickly add node → Move the cursora again → Press 〖ROUTE〗 to quickly add multiple nodes → Press 〖CLR〗 to save the route data.

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Add route	(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. (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】
Delete route	**Classic mode:** (1) Press 〖MENU〗 to enter the 【Main Menu】 → Select the 【Route List】 → Press 〖ENT〗 to enter the 【Route List】 → Select the route that want to delete, → Press 〖ENT〗 → Pop up 【Route Operation】 → select 【Delete Route】 (2) On the chart → Move the cursor → Select the route that want to delete → Press 〖Enter〗 → Pop up the operation interface → Select 【Delete Route】
	Utility mode: (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 Select 【Yes】 or press 〖ENT〗 → The route can be deleted. (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.

6-5 Mark Operation

Add mark	On the chart → Move the cursor → Press 〖MARK〗 → Add mark .
Delete mark	**Classic mode:** (1) Press 〖MENU〗 to enter the【Main Menu】→ Select the【Mark List】Press 〖ENT〗 to enter the 【Mark List】→ Select the mark that want to delete → Press 〖ENT〗 → Pop up 【Mark Operation】→ select 【Delete Mark】 (2) On the chart → Move the cursor → Select the mark that want to delete → Press 〖Enter〗 → Pop up the operation interface → Select 【Delete Mark】
WPT navigation	**Utility mode:** (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. (2) Press 〖MENU〗to enter the【Main Menu】→ Select【Edit】 → Press 〖ENT〗to enter【Edit】page → Select【Mark 】 → Press 〖ENT〗to enter the 【Mark】 → Press 〖MENU〗 → Pop up the 【Mark Operation】interface → Select 【Delete 】 → Press 〖ENT〗 → The mark can be deleted.

6-6 Display Mode and Brightness Setting

Display mode	**Classic mode:** On the chart, when non-route navigation → Press 〖→•〗 to set the display mode → Press 〖←〗 〖→〗 to select the display mode.
	Utility mode: Double-click the 〖POWER〗 → Pop up【Device Settings and Display Mode】 → Select the 【Display Mode】 → Press 〖←〗 〖→〗 to select the display mode.

Brightness setting	**Classic mode:** Press〖POWER〗to adjust the brightness.
	Utility mode: Double-click the〖POWER〗→ Pop up【Device Settings and Display Mode】→ Select the【LCD Brightness】→ Press〖←〗〖→〗to adjust the brightness.

6-7 AIS List

AIS ship operation on chart	**Classic mode:** On the chart → Move the cursor → Select an AIS target → Pop up the AIS message → Press〖ENT〗→ Pop up the operation menu → Select【Track Display/Details/Add Monitor/Send/Start Trace】
	Utility mode: On the chart → Move the cursor → Select an AIS target → Pop up the AIS message → Press the〖ENT〗→ Pop up the operation menu → select【Join Monitor /Send/Start Trace/Track Display/Details】
AIS list sort	**Classic mode:** Press〖MENU〗→ Pop up the【Main Menu】→ Select【AIS Function】→ Press〖ENT〗to enter the【AIS Function】page → Select【AIS Vessel Information】→ Press〖ENT〗to open the AIS list → Press〖ENT〗to pop up the AIS operation menu → Select【Sort】→ Select【MMSI/Distance/SOG/COG/Name】.
	Utility mode: Press〖MENU〗→ Pop up the【Main Menu】→ Select【AIS】→ Select【AIS List】→ Press〖ENT〗to enter the AIS list → Press〖MENU〗to pop up the AIS operation menu → Select【Sort】→ Select【MMSI/Distance/SOG/COG/Name】.

View ship details in the list	**Classic mode:** Press〖MENU〗→ Pop up the【Main Menu】→ Select【AIS Function】 → Press 〖ENT〗 to enter the【AIS Function】 page → Select【AIS Vessel Information】→ Press 〖ENT〗 to open the AIS list → Select an AIS target → The ship's details are displayed on the right.
	Utility mode: Press〖MENU〗→ Pop up the【Main Menu】→ Select【AIS】→ Select【AIS List】→ Press 〖ENT〗 to enter the AIS list → Select select an AIS target → Press 〖MENU〗 to pop up the AIS operation menu → Select【Detail】→ press〖ENT〗to view the detail information.
View AIS vessel chart location	**Classic mode:** Press〖MENU〗→ Pop up the【Main Menu】→ Select【AIS Function】→ Press 〖ENT〗 to enter the【AIS Function】 page → Select【AIS Vessel Information】→ Press〖ENT〗to open the AIS list → Select an AIS target → Press 〖ENT〗 to pop up the AIS operation menu→ Select【View】→ Press 〖ENT〗 to jump to the position of the ship on the chart.
	Utility mode: Pres〖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【View】→ Press the 〖ENT〗 to jump to the position of the ship on the chart.
Correct chinese ship name	**Classic mode:** Press 〖MENU〗→ Pop up the 【Main Menu】→ Select【AIS Function】→ Press 〖ENT〗 to enter the【AIS Function】 page → Select【AIS Vessel Information】→ Press 〖ENT〗to open the AIS list → Select an AIS target → Press〖ENT〗to pop up the AIS operation menu → Select【Correct Ship Name】→ Press〖ENT〗to pop up the edit window → Edit chinese ship name.

6-8 AIS Fleet Management

Join monitoring	**Classic mode:** (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】 (2) Press 〖MENU〗 → Pop up the 【Main Menu】 → Select 【AIS Function】 → Press 〖ENT〗 to enter the 【AIS Function】 page → Select 【AIS Vessel Information】 → Press 〖ENT〗 to open the AIS list → Select an AIS target → Press 〖ENT〗 to pop up the AIS operation menu → Select 【Join Monitoring】 → Press the 〖ENT〗 to join monitoring.
	Utility mode: (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】 (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.
Modify group settings	**Classic mode:** Press 〖MENU〗 → Pop up the 【Main Menu】 → Select 【AIS Function】 → Press 〖ENT〗 to enter the 【AIS Function】 page → Select 【AIS Monitor】 → Press 〖ENT〗 to enter 【AIS Monitor】 page → Select an AIS fleet → Press 〖ENT〗 to pop up 【Group Operation】 → Select 【Modify Group Settings】 → Press 〖ENT〗 to modify group.

Modify group settings	**Utility mode:** 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.
Modification group membership	**Classic mode:** Press 〖MENU〗 → Pop up the 【Main Menu】 → Select 【AIS Function】 → Press 〖ENT〗 to enter the 【AIS Function】 page → Select 【AIS Monitor】 → Press 〖ENT〗 to enter 【AIS Monitor】 page → Select an AIS fleet → Press 〖→〗 to enter the member list → Press 〖ENT〗 to pop up the 【Member Operation】 settings page.
	Utility mode: 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.

6-9 Network management

WiFi connection	**Classic mode:** Press the 〖MENU〗 twice → Pop up the 【Parameter Settings】 page → Select 【WiFi Management】 to Enter WiFi management page → Enter WiFi password for network connection.
	Utility mode: Press 〖MENU〗 → Pop up the 【Main Menu】 → Select 【Settings】 → Press 〖ENT〗 to enter the 【Settings】 page → Select 【WLAN Settings】 to connect to the network.

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 manually detect whether there is a new version or not.

Classic mode:

Press the 〖MENU〗twice to enter the parameter setting, select 【About Device】, and then select【Online Upgrade】to manually check and update.

Utility mode:

Press the 〖MENU〗to enter the main menu, select【Auxiliary 】, and then select【Online Upgrade】to manually check and update.

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8 Parameter Configuration

Display Unit		XF-608	XF-808	XF-1069
Display Type		Color TFT LCD		
Display Size		7 inch	8 inch	10.4 inch
Display Resolution		800 × 480 pixels	800 × 480 pixels	800 × 600 pixels
Display Brightness		500cd/m^2	400cd/m^2	300cd/m^2
Language		Classic mode. English, Simplified Chinese, Traditional Chinese , Vietnamese		
		Utility mode. English, Simplified Chinese, Traditional Chinese, Vietnamese, Malay, Korean, Turkish, Thai, Greek, Indonesian, Japanese, Burmese, Arabic, Persian		
Display Modes		Classic mode. Standard Chart, GPS data, AIS data, Navigation Chart, Full Chart, 3D Navigation, 3D+Chart, Compass, GNSS		
		Utility mode. Standard Chart, Pure Chart, Simple Chart, AIS Data, Sailing Data , GNSS, 3D Navigation, Compass		
Memory Capacity		50,000 waypoints, 50,000 markers, 500 routes, 1000 tracks		
Interface		2 Ports NMEA0183 Output , 2 Ports NMEA0183 Input (Mutual independent, Baud rate can be set indenpently)		
WiFi		802.11 b/g/n		
Power Supply		DC 10V~36V		DC 12V~36V
Power Consumption		8W or less (24 VDC)		10W or less (24 VDC)
Enviromental				
Working Temperature		-15℃~+55℃		
Storage Temperature		-20℃~+60℃		
Waterproofing		IP65		
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）		
Speed Accuracy		0.1m/s (50%@10m/s)		
Time to First Fix		Cold Start＜30s , Hot Start＜1s		
Standards		IMO Resolution A.694(17), IMO MSC 112(73), IEC 61108-1, IEC 61162-1, IEC 60945		

Display Unit	XF-607B	XF-808B	XF-1069B
Display Type	Color TFT LCD		
Display Size	7 inch	8 inch	10.4 inch
Display Resolution	800 × 480 pixels	800 × 480 pixels	800 × 600 pixels
Display Brightness	500cd/m^2	400cd/m^2	300cd/m^2
Language	Classic mode. English, Simplified Chinese, Traditional Chinese , Vietnamese		
	Utility mode. English, Simplified Chinese, Traditional Chinese, Vietnamese, Malay, Korean, Turkish, Thai, Greek, Indonesian, Japanese, Burmese, Arabic, Persian		
Display Modes	Classic mode. Standard Chart, GPS data, AIS data, Navigation Chart, Full Chart, 3D Navigation, 3D+Chart, Compass, GNSS		
	Utility mode. Standard Chart, Pure Chart, Simple Chart, AIS Data, Sailing Data , GNSS, 3D Navigation, Compass		
Memory Capacity	50,000 waypoints, 50,000 markers, 500 routes, 1000 tracks		
Interface	1 Port AIS Output , 1 Port NMEA 0183 Output , 2 Ports NMEA 0183 Input (Baud rate can be set indenpently)		
WiFi	802.11 b/g/n		
Power Supply	DC 10V~36V		DC 12V~36V
Power Consumption	10W or less (24 VDC)		11W or less (24 VDC)
Enviromental			
Working Temperature	-15℃~+55℃		
Storage Temperature	-20℃~+60℃		
Waterproofing	IP65		
AIS Class B			
Frequency	156.025 ~ 162.025MHz		
Bandwidth	25KHz		
Modulation	GMSK/FM		
Data Rate	9600bps		
Number of AIS transmitter	1		
Number of AIS Receiver	2		
AIS Channel A(default)	CH87B (161.975 MHz)		
AIS Channel B(default)	CH88B (162.025 MHZ)		
TX Power Output	2 W		
RX Sensivity	< -107 dBm @ 20% PER		

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）
Speed Accuracy		0.1m/s (50%@10m/s)
Time to First Fix		Cold Start<30s ,Hot Start<1s
Standards		IEC 62287-1, IEC 61108-1, IEC 61162-1, IEC 60945, ITU-R M.1371-5, IMO Resolution A.694(17)

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