

WSS-H76

Heading sensor

User manual



User notice

► Disclaimer

Warning: Before using this product, please refer to the important safety information in the user manual and review all warnings, limitations and disclaimers.

This product is no substitute for proper training and careful seamanship. Proper installation and proper use of the equipment is the responsibility of the owner to avoid accidents, personal injury or property damage. The user of this product is solely responsible for compliance with maritime safety practices.

The owner is solely responsible for installing and using the equipment in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for compliance with maritime safety navigation practices.

This document represents the product at the time of release. Ningbo SHANBEI Technology Co., Ltd. reserves the right to change product specifications at any time without prior notice. If you need any further assistance, please contact your nearest dealer.

► Governing language

This Statement, any instruction manuals, user guides and other Product-related information (documentation) may be or have been translated into another language (translation). If there is any conflict between any translated version of the document, the Chinese version of the document will be the official version of the document.

► Copyright

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► Cautions

- 1 Do not place the equipment at will without fixing it, so as to avoid serious damage when it is dropped due to turbulence or other factors during the voyage.
- 2 Do not use any power adapter that is not equipped with this product. Otherwise, the device may not work due to the different circuit design, or the performance may be affected or even damaged.
- 3 Do not disassemble the equipment. If the maintenance engineer is not authorized by the company to disassemble the equipment, the free warranty will be lost.
- 4 During use or cleaning, avoid any liquid or other objects falling into the equipment to avoid circuit damage or short circuit.
- 5 Do not place the device and its accessories in an environment prone to humidity or direct sunlight. Keep the device in a dry environment.
- 6 In case of hardware failure (such as damage to the machine shell or foreign matter falling into the machine, etc.), please stop using the machine immediately and contact the dealer in time.
- 7 The company shall not assume any legal or other liability for any maritime accident, monetary loss or loss of interests that occurs on vessels using this equipment.

Contents

1	Introduction	01
1.1	Overview	01
1.2	Product appearance	01
1.3	Product composition	01
1.4	Product size drawing	02
1.5	Product wiring diagram	02
2	Technical parameter	03
2.1	Product basic parameter	03
3	Installation instructions	04
4	Instructions and precautions for use	05
4.1	Instructions for use	05
4.3	Matters needing attention	05
5	Fault analysis and elimination	06
6	Safety protection and accident handling	07
6.1	Safety protection devices and precautions	07
6.2	Troubleshooting procedures and methods	07
7	Maintenance and repair	08
7.1	Daily maintenance and maintenance	08
7.2	Operation precautions	08
7.3	Long-term maintenance and maintenance	08
8	Transportation, storage and warranty	09
8.1	Transportation precautions	09
8.2	Storage precautions	09
8.3	Warranty period	09
9	Other	10
9.1	Phone number of the after-sales engineer	10
9.2	Company information	10

1 Introduction

1.1 Overview

The WSS-H76 heading sensor is mainly used to detect ship heading value in real time. Through the built-in 9-axis electronic compass and high-precision GPS module, the stable heading value can be obtained and converted into the standard NMEA0183 data protocol output to the automatic rudder, radar, AIS and other equipment that needs to direct data. At the same time, it can output longitude, latitude and inclination data, with stable and reliable, easy to use, small size and so on. The product can also be used with the company's rotary compass repeater and signal distributor to display, distribute and output data. Can be widely used in all kinds of ships.

- 1. Low-cost heading data solution; Rich signal output function;
- 2. Customizable communication protocols, including output statements and baud rates; Stable NMEA0183 signal output;
- 3. Fast positioning, up to 30°/s steering tracking performance, suitable for high-speed boats;
- 4. IP66 protection grade, suitable for long sailing Marine environment.

1.2 Product appearance



Figure 1.1

1.3 Product composition

Number	Name	Quantity
1	Heading sensor	1
2	Supporting cable 10m	1
3	Certificate of conformity	1
4	Warranty card	1
5	specification	1

Table 1.1

1 Introduction

1.4 Product size drawing

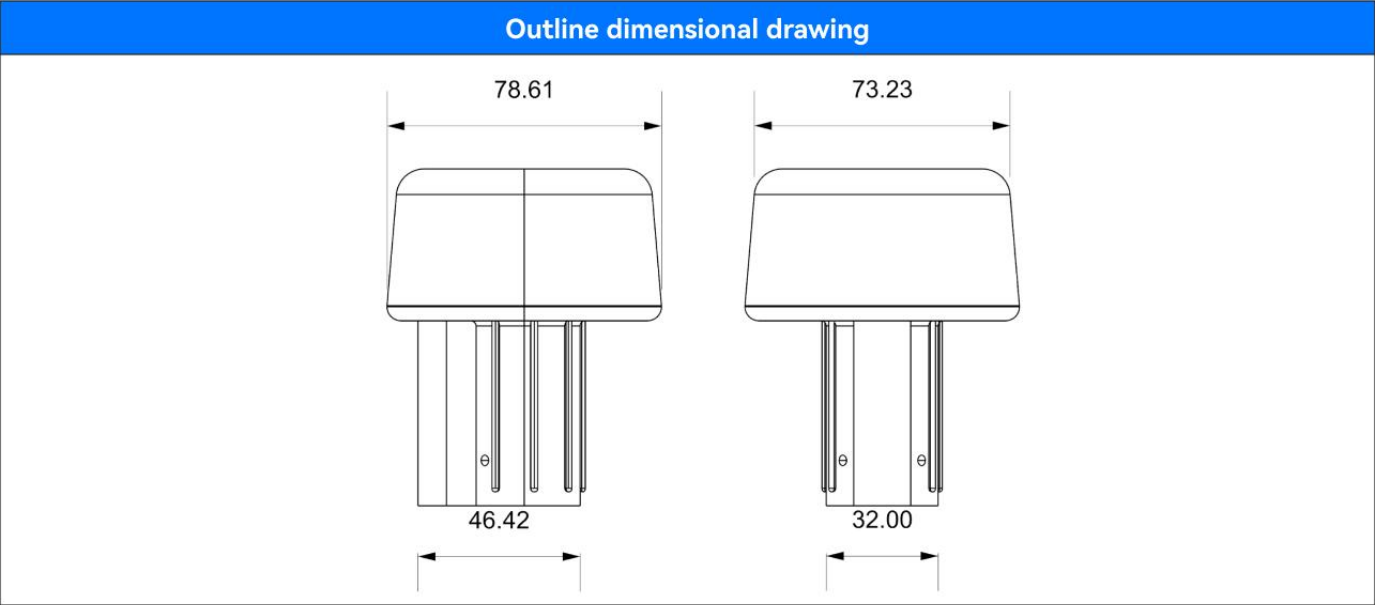


Figure 1.2

1.5 Product wiring diagram

Color	Name	Feature
Red	Power source	9~32VDC
Black	Ground wire	GND
Yellow	RXA	RS-485(RXA)
Green	RXB	RS-485(RXB)

Table 1.2

2 Technical parameter

2.1 Product basic parameter

Heading accuracy	±1.0° (95% static accuracy)
GPS positioning accuracy	10m (95%)
Tracking rate	30°/s
Positioning time	3min
Electrical interface	4-pin plug, 10m cable,RS485,18KV ESD
Data	Baud rate: 4800 200ms Interval: HDT (heading) 1s Interval: RMC(latitude and longitude),GMS(inclination)
Weight	350g
Power source	9~32VDC, with overvoltage and reverse protection
Power dissipation	450mW
Built-in sensor	3-axis reluctance sensor, 3-axis speed compass, 3-axis acceleration sensor, GPS receiver

Table 2.1

3 Installation instructions

1. Rotate the main body to the 1m support rod as shown in Figure 3.1 (it is strictly prohibited to use ferromagnetic materials, non-metallic materials must be used, such as bamboo pole, wooden pole, glass fiber reinforced plastic, etc.), and fasten it with tight screws.

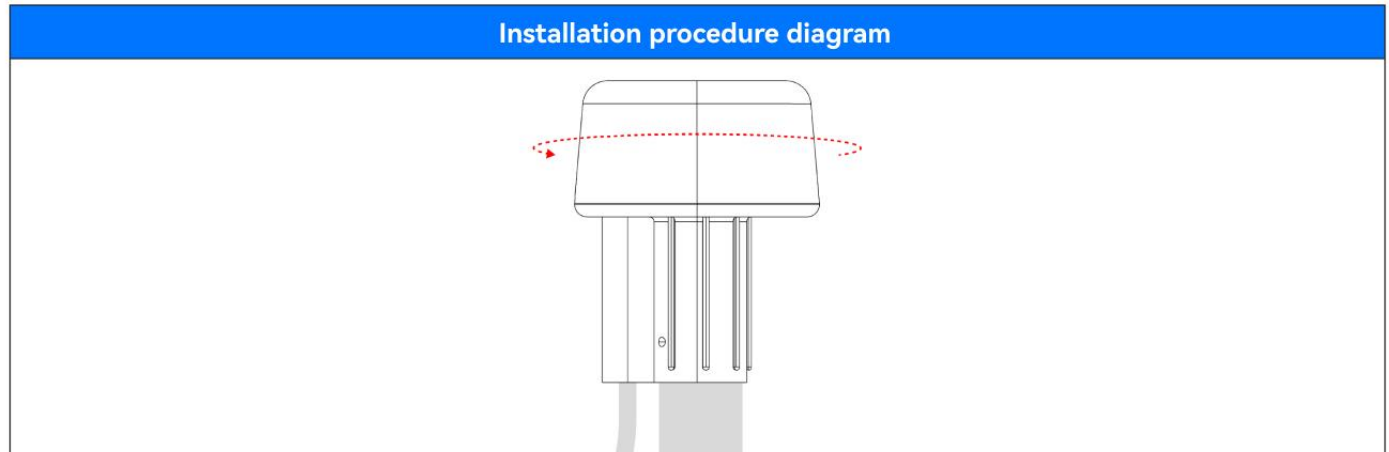


Figure 3.1

2. Point the sensor arrow toward the bow, as shown in Figure 3.2.

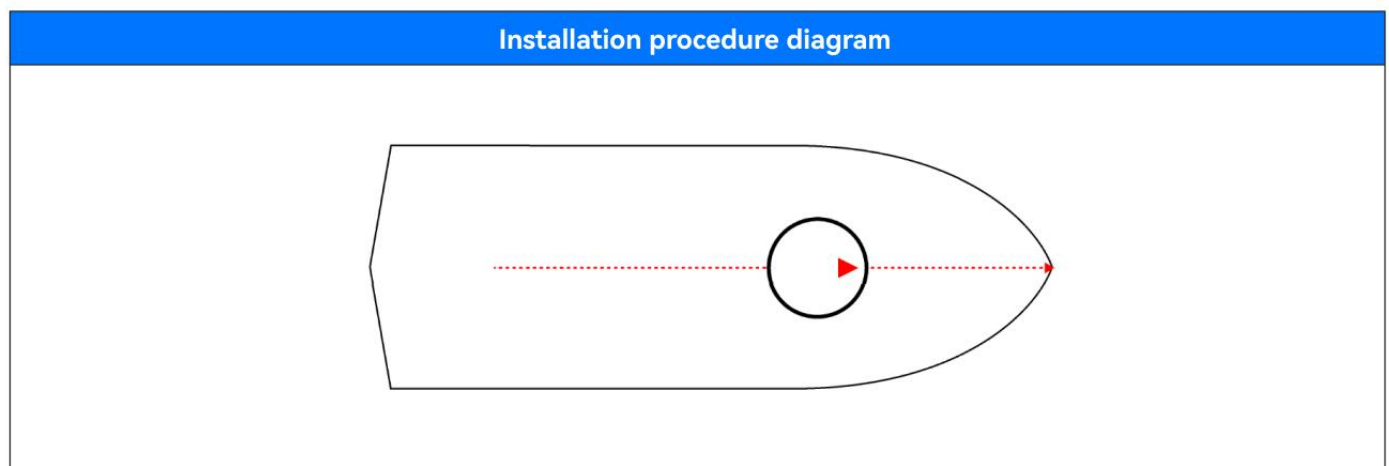


Figure 3.2

3. As shown in FIG. 3.3, fix the pole and sensor of Part B on the fence of the compass deck to ensure that it is fixed firmly and reliably, without rocking or loosening. Keep it flush with the deck plane and install it in the center of the ship as far as possible.

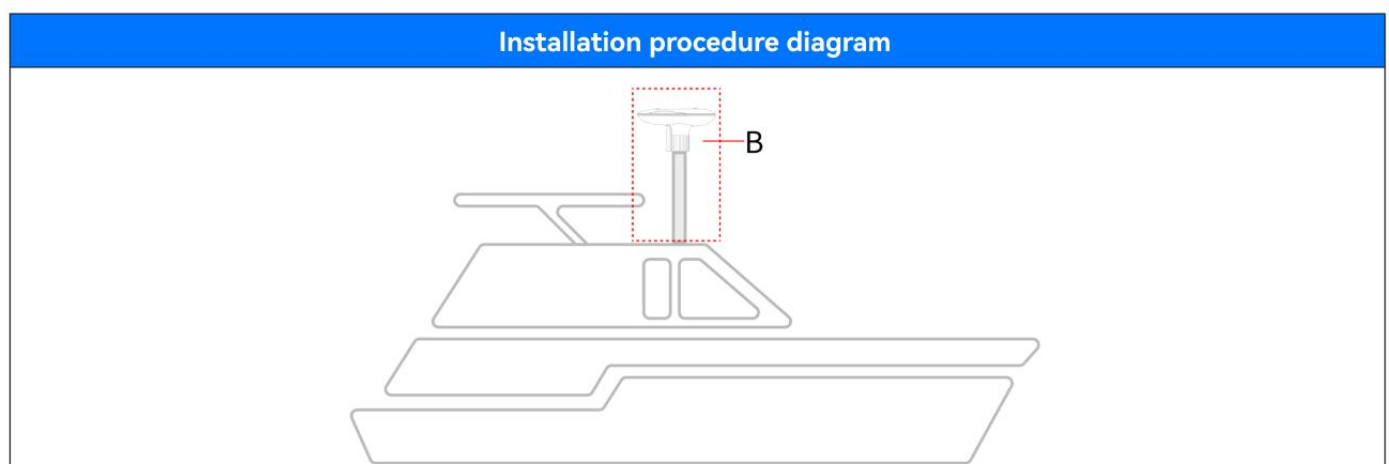


Figure 3.3

4 Instructions and precautions for use

4.1 Instructions for use

1. Install and secure it as required.
2. Insert the aerial plug of the antenna into the heading divider (our model WCU-0308), you can obtain a stable heading digital value (standard NMEA0183 signal, HDT statement) and send it to radar, AIS, autopilot and other equipment; The compass repeater (our model WSI-H192A) can also be inserted to display the current heading value in real time.
3. If the device is connected to another device, cut off the plug and connect cables according to the cable definition. You are advised to use a fork or round cord end terminal.

4.2 Matters needing attention

1. If it is not used according to the requirements in the instructions, the loss shall be borne by the user; The user shall bear the damage caused by exceeding the rated voltage.
2. In the process of use, if the heading value is found to be deviated from the true value, the antenna direction can be properly rotated to adjust the Angle.

5 Fault analysis and elimination

This product has been put into operation since the use, basically no fault, with our statistics, the after-sales problem is basically due to wiring errors, resulting in normal use, in addition, there is no technical fault. Customers in the use of the process, if you find technical problems, please promptly communicate with our technical personnel.

6 Safety protection and accident handling

6.1 Safety protection devices and precautions

1. In the important position of this product, the fastening seals have been processed before leaving the factory, and shall not be disassembled without permission. If the seals are damaged, any product quality problems will be borne by the buyer.
2. Once the product fails to operate normally, please stop using and disconnect the power supply immediately, and contact our after-sales service engineer for a solution.

6.2 Troubleshooting procedures and methods

1. In the process of use, there is an unsolvable fault problem, contact our after-sales service engineer.
2. During the warranty period, if the fault occurs due to the product itself, we will provide a complete replacement product and send it to the buyer for free replacement. And provide technical support; If the fault is not caused by the product itself, we can provide two options of complete replacement products and on-site services, which are selected by the buyer. All costs are borne by the recipient.
3. If the warranty period is exceeded and the fault occurs, we can provide two service options that can completely replace the product or replace some parts of the product, which are selected by the buyer. The required cost shall be borne by the purchaser.

7 Maintenance and repair

7.1 Daily maintenance and maintenance

In the daily non-use state, attention should be paid to the maintenance of this product. Through maintenance, maintenance can improve the service life of the product, the specific maintenance and maintenance methods are as follows:

1. Wipe the surface of the product regularly with a dry rag to ensure that the outside of the product is clean and tidy.

7.2 Operation precautions

1. Stop using the device when there is a problem during operation. Contact our after-sales engineer.
2. The input voltage shall be carried out in strict accordance with the wiring instructions. Failure to operate according to the regulations will result in product failure or other major accidents, which shall be borne by the buyer.

7.3 Long-term maintenance and maintenance

Long-term placement, maintenance maintenance methods, and daily maintenance, maintenance methods are the same.

8 Transportation, storage and warranty

8.1 Transportation precautions

Physical damage to the product caused by violent shaking and collision should be avoided during transportation.

8.2 Storage precautions

Room temperature, dry, cool environment. Avoid high temperature exposure or low temperature freezing, which will cause irreversible damage to the damping parts and reduce the service life.

8.3 Warranty period

The warranty period of this product is 12 months from the date of receipt of the goods by the buyer. Based on the date of receipt of documents for express delivery or the date of receipt of invoice.

9 Other

9.1 Phone number of the after-sales engineer

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9.2 Company information

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