

# User Manual

## Wetter- Infobox for PC/USB

concerning Software-Version 1.1.x



NAVTEX-receiver on 518 kHz in English and on 490 kHz in national language  
Sea weather-receiver of the German weather service at 147,3 kHz  
Barograph including storm warnings  
Storage of Synop-messages



This manual contains important information for correct using of this device.  
Please read this instruction carefully before start-up.



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In spite of careful processing and programming a defect and/or complete failure of the WIB3 can not be completely excluded. Due to atmospheric disturbances or to disturbances of other electrical and electronic devices, contents of messages can be falsified. The operators of the transmitting plants can change or stop the broadcasting service (temporarily or permanent).

Therefore no liability for availability and correctness of the indicated messages are taken over. In particular no liability for possible damages resulting from use of the WIB3 and information of this manual will be taken over.

In this manual trademark, trade-names, customer-names, etc. are used. Even if these are not particularly characterized, the appropriate protection regulations are effective.

## **Note**

Software updates for this product are available in the Internet:  
<http://www.wetterinfobox.com/english/Downloads.htm>

## Contents

Scope of supply.....	3
Introduction.....	4
The software.....	4
Software installation.....	5
Weather-messages.....	5
NAVTEX- messages.....	6
Barograph.....	7
Gale-warning.....	9
Synop data.....	9
Status-line.....	10
Function overview.....	11
Operating instructions.....	11
Environment.....	11
Switching the WIB3 on & off.....	12
Hints to radio reception.....	12
Rechargeable batteries.....	13
Operational status indicators.....	13
Specifications.....	14
Accessories.....	15
Warranty.....	15

## Scope of supply

The following parts belong to the scope of delivery of the WIB3:

- 1 x WIB3,
- 1 x USB-cable,
- 3 x NiMH rechargeable batteries AA, 2100mAh (are placed inside the device),
- CD with WIB3- software,
- Installation-Manual.

## **Introduction**

The WIB3 is a special receiver for NAVTEX and weather messages for your board PC. The device receives international NAVTEX messages on 518 kHz in English language and national NAVTEX- messages for sports navigation in the respective national languages on 490 kHz.

The German weather service will likewise be received on frequency 147.3 kHz in German language for sea-weather- forecasts, weather-prognoses, forecasts and station messages.

All three frequencies are received and automatically stored at the same time. Thus adjusting a time-steered frequency shift is not necessary; this simplifies the application of the device.

Synop-messages can be used for representation of wind-arrows and wind-direction. In addition to the usual sea-weather forecasts the DWD also sends encoded weather information, the so-called Synop / ship messages. The WIB3-software is able to decode the Synop-messages and display them on a chart as wind-arrows.

The WIB3 equipped with an inserted precision air pressure sensor, is able to record the air pressure during a period of up to seven days.

The device will be connected to the PC via an USB-interface. It is similar to an USB-memory-stick and appears as a new storage-medium on the PC. This storage-medium contains all received messages as well as all data of the air-pressure sensor.

The WIB3 contains rechargeable batteries, which makes it independent of external power supply. The rechargeable batteries can be used for a period of operation of approx. seven days.

The device does not have any control elements. All functions will be activated by the PC.

When the batteries has been charged, the WIB3 will automatically receive and store all necessary information, which can be called up via PC. The WIB3 will switch off, when the batteries are low and need a recharging.

## **The software**

The operation of the WIB3 will be done by a comfortable Windows-software. The software is working with the operating systems Windows ME, 2000 and XP, available in German or English version.

Software-updates for the WIB3 will be spread via the internet. Nevertheless, please look for time to time under <http://www.wetterinfobox.com>, to make sure, you have the latest version.

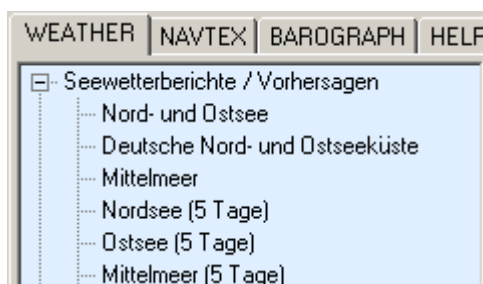
## Software installation

The software of the WIB3 is stored on the enclosed CD, which is part of the scope of delivery. In the file *Deutsch* on the CD you will find the installation program for the German version. The file *English* contains the appropriate installation program for the English version.

In order to install the software please start the required installation program (Setup.exe) with a double-click. Afterwards you have to follow the instructions shown on the screen.

After installation the WIB3 is ready for operation. Please attach the WIB3 via USB-cable to the PC and start the WIB3-program on the PC screen via the icon.

## Weather-messages



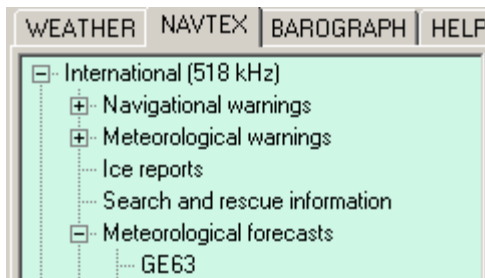
In order to view weather-messages please activate the tab WEATHER. Afterwards you can click on a message type in the weather menu structure. The appropriate message appears in the message window on the right side. The last two messages of each message type are indicated.

New messages are displayed in the menu tree in bold font. Messages which were already displayed once are shown in normal font.



Please pay attention: WIB3 will be delivered including weather messages for demonstration purposes. Actual messages will be displayed not until receiving the newest one.

The transmission method (RTTY), which the German weather service uses for transmission of the messages, permits no error recognition. Therefore errors can be contained in the indicated weather broadcasts, which are not to be recognized as such. The receipt-range of the WIB3 amounts to approx. 300 nautical miles with optimal receipt possibilities starting from Hamburg Pinneberg.

## NAVTEX- messages



In order to view NAVTEX- messages, please activate the tab NAVTEX. Here the NAVTEX menu structure is shown, in which the NAVTEX messages are sorted according to their message type. For the two NAVTEX frequencies 490 kHz and 518 kHz two menu structures are available, one for each. The

entire menu structure can completely be opened with the button  and closed with the button .

New messages are displayed in the menu tree in bold font. Messages which were already displayed once are shown in normal font.

All NAVTEX- messages will automatically be stored for two days and afterwards deleted. The transmission method for NAVTEX- messages (Sitor) permits a reduced recognition and correction of transfer errors. Characters, which were not received correctly, will be represented as underscore (\_). It can occur nevertheless that also normally represented characters are incorrect.

The structure of a NAVTEX message is to be explained on the basis of following example:

```
ZCZC PA09
NETHERLANDS COASTGUARD
NAVIGATIONAL WARNING NR. 9 172128 UTC AUG
PLATFORM L10-G 53-29.4N 004-11.7E
UNLIT
NNNN
```

Each NAVTEX- message begins with the letters ZCZC, followed by the message identification (PA09). The first letter of the message identification serves the master station for the identification. In this case it is NETHERLANDS COASTGUARD (P).

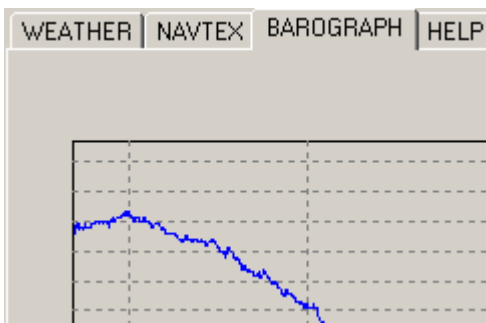
In the second letter the kind of message is coded, here navigational warning (navigation warnings). The last two numbers of the message identification (09) are a serial-number. The number 00 has a privileged position. It is reserved for distress messages.

NAVTEX messages have a time stamp. It is shown at the end of the third line (172128 UTC August) and means: 17. August, 21:28 UTC. The time stamp refers to the date, the message was produced and not to the time of the radiant transmission. Afterwards the message content follows. The message ends with NNNN.



The following table contains an overview of the different message-types:

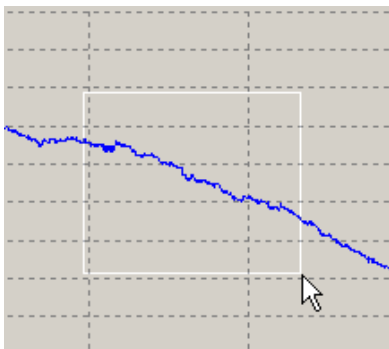
Code	Message-type	Menu option
A	Navigational warnings	Navigational warnings
B	Meteorological warnings	Meteorological warnings
C	Ice reports	Ice reports
D	Search and rescue information	Search and rescue information
E	Meteorological forecasts	Meteorological forecasts
F	Pilot service messages	Pilot service messages
G	Information about DECCA navigation-system	Electronic navaid messages
H	Information about LORAN navigation-system	Electronic navaid messages
J	Information about GPS navigation-system	Electronic navaid messages
K	Information about other navigation-systems	Other messages
L	Additional navigational warnings (f. e. ring-moves)	Additional warnings
V	Additional navigational warnings (f. e. ring list)	Remaining messages
W	Reserved for special service	Remaining messages
X	Reserved for special service	Remaining messages
Y	Reserved for special service	Remaining messages
Z	QRU (no messages)	Remaining messages

## Barograph



The third tab contains the BAROGRAPH. The measuring data are represented in the diagram from left to right. I.e. the current measured value is on the right side of the curve. The barograph has a measuring interval of one minute and resolution of 0,1hPa.

The representation period can be decreased with the Zoom-In-Button  and increased with the Zoom-Out-Button . The temporal gradation is 6h, 12h, 24h, 48h and 7 days.



You can increase a cut-out of the air pressure curve. Draw in addition a rectangular window with the mouse from above left downward right. Use the left mouse button. If the mouse button is released, the appropriate range of the diagram will be shown increased.

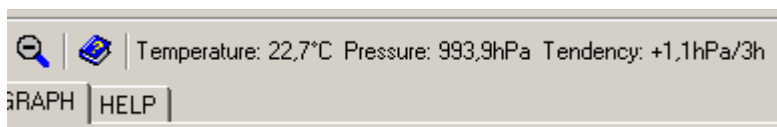
The enlargement can be cancelled again by drawing any rectangular window with the mouse in reverse

direction (from downside right upward left).

The diagram is movable in any direction. Click in addition with the right mouse button into the air pressure curve and move the mouse. As long as you keep the mouse button pressed, the air pressure curve will follow the mouse movements.

The data of the barograph are only up to date, if a WIB3 is attached to the computer. Then the curve is represented in blue colour. If the air pressure data are not up to date (no WIB3 attached), the curve will be represented in black.

The WIB3 indicates the absolute air pressure. The shown value will not be converted to sea level. The air pressure will decrease by 1hPa per 8m. E.g. in a height of 80m above sea level the indicate pressure of WIB3 is 10hPa lower than the pressure at sea level.

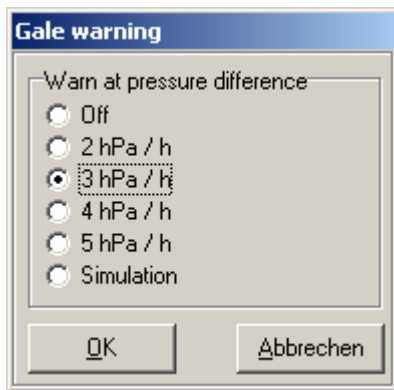


While the WIB3 is attached to the PC, the current temperature, the air pressure and the three hours of air pressure tendency are indicated on top of the screen.

Please note, that the data of the barograph are lost, if the batteries of the WIB3 are exhausted. Therefore you should charge the batteries in time.



## Gale-warning



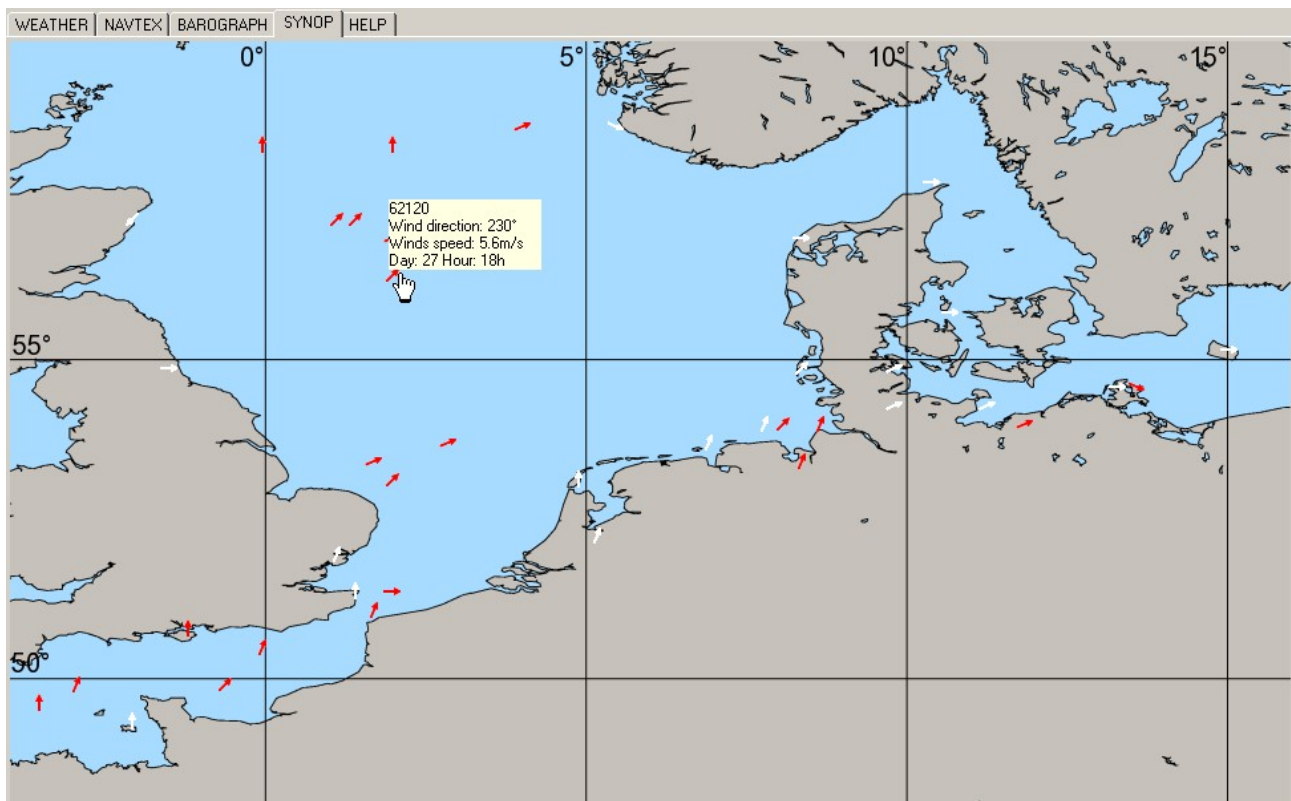
With fast changes of air pressure the gale danger is particularly high. In order to relieve you from the constant observation of the air pressure process, you can switch on the storm-warning. This function will be opened by the menu *Settings->Gale warning*.

Depending on the setting, an alarm will be released, if the air-pressure falls within one hour more than 2 to 5 hPa.

In the case of an emergency the WIB3 sends an acoustic audio signal and all three light emitting diodes at the device are flashing rhythmically. If the WIB3 is attached to the PC, there will also be a gale-warning indicated in the WIB3-program. In addition a warning-window will be opened. The alarm will be switched off by closing the window. Without user interference the audio signal will be switched off after one minute. The light emitting diodes will continue to flash. You can test the gale-warning function by starting the simulation.

## Synop data

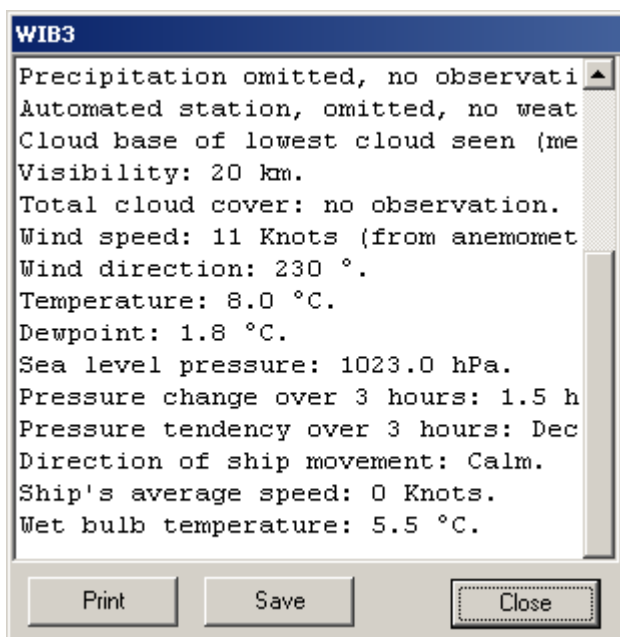
In addition to the well-known weather messages the DWD sends encoded meteorological data of firm weather stations and ships.



The WIB3-Software decodes these data and indicates it in a map as wind arrows.

Please activate the tab SYNOP for the representation of the Synop data. A pixel map of parts of the North and Baltic Sea will be shown. The red arrows in the map will show Synop messages at the appropriate position. The white arrows will show a weather station from the DWD Station reports for the North and Baltic Sea.

Resting with the mouse pointer above an arrow, a reference display window appears and shows the radio call sign of the Synop message (or the station name with DWD station messages), the wind direction, the wind force as well as day and time of the message (UTC).



To display all decoded information of a Synop Message please click on the appropriate wind arrow (see page 9). A window will be opened with the data in plain text. If you click on a white arrow, the station messages of North / Baltic Sea are indicated. The station belonging to the arrow is marked by a star (\*) in the beginning of the line.

You can close the Synop Window with a click at the Close-button or with a double-click into the text. The Synop data are also available in coded form on the WEATHER-tab (in the menu tree below Synop). It is possible to

store the data into a file, for e.g. to decode it with another program.

### Important note:

Transmission errors in the encoded Synop data cannot be recognized, since no check sum is present. In addition already small errors in the encoded data causes absolute wrong results during decoding. So please pay attention of the data from the Synop messages and refer also to other sources of information for weather determination.

### Status-line

The status line is located at the lower edge of the WIB3-program-window. At this line information of the condition of the WIB3 are indicated.













The following information are contained in the status line (from the left to the right):

- Information of the data communication with progress bar,
- Information of new NAVTEX messages,
- status of battery,
- status of the WIB3.

## Function overview

The following table gives an overview about the functions of the WIB3:

Menu option	Icon	Function
File->Open...		Opens an already stored message.
File->Save...		Stores a message.
File->Print...		Prints a message or a barograph-curve.
File->Exit		Terminates the program.
Settings->Gale warning...		Opens the dialogue for adjustment of the gale-warning.
Settings->Expand tree		Opens / unfolds the NAVTEX-menu tree.
Settings->Collapse tree		Closes / folds the NAVTEX- menu tree.
Settings->Zoom In		Increases the barograph view (only the time scale).
Settings->Zoom Out		Decreases the barograph view (only the time scale).
Help->Manual...		Opens the User Manual.
Help->System information...		Shows system information of the software and of the WIB3.

## Operating instructions

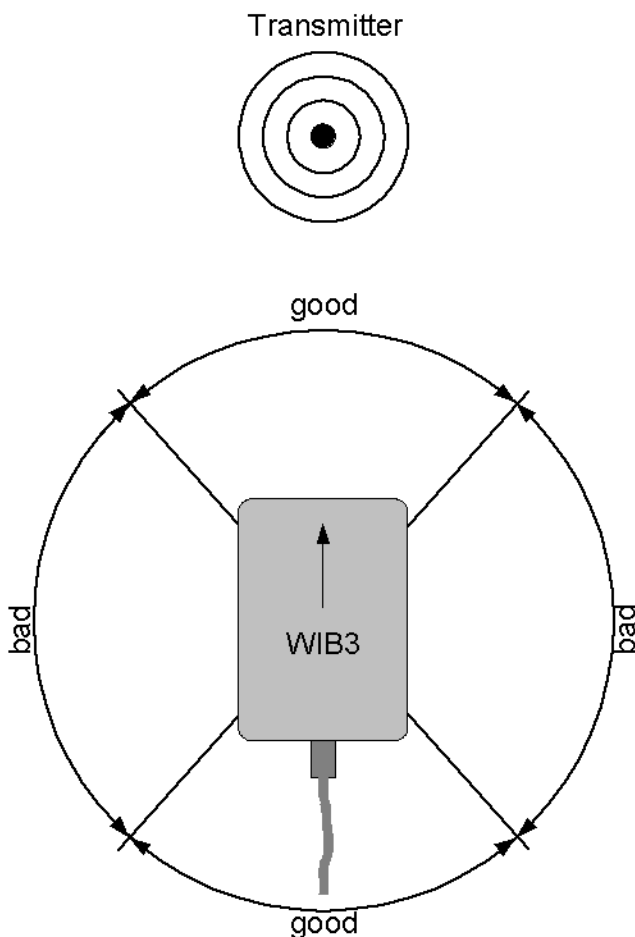
### Environment

Please use the equipment only in the interior in dry environment. Do not expose the equipment in use to temperatures higher than 50°C and lower than 0°C.

## Switching the WIB3 on & off

The WIB3 has no operating controls. The device is switched on when it is attached to a PC. It switches off automatically, if the internal battery is empty. Thus it is guaranteed that the battery does not become deep-discharged.

## Hints to radio reception



The internal ferrite rod antenna of the WIB3 has a directionality. For good reception the equipment must be operating flat lying. With small distance to the transmitter the directionality of the antenna will become hardly noticeable. The range of the bad receipt (see illustration) is hardly to be determined.

With increasing distance from the transmitter the directionality of the antenna will become more visible. In this case the WIB3 must be aligned to the transmitter for a good receipt. A good weather receipt can be examined by the WEATHER LED. In case of good receipt the LED flashes evenly fast.

In case of bad or no receipt the LED flashes irregularly or not at all.

Electromagnetic interferences can impair the receipt. This can occur due to e.g. computer, electronic navigation equipment, fluorescent lamps, inverters, battery chargers, generators, electric motors, high voltage transmission lines etc. Therefore the equipment should be positioned as far away as possible from this equipment. The light emitting diode WEATHER on the WIB3 must flash evenly fast, for a perfect weather receipt.

The receipt can be impaired also by atmospheric disturbances (e.g. Thunderstorms). The receipt range for weather broadcasts is approx. 300 nautical miles around Hamburg Pinneberg at optimal receipt possibilities.

Steel and/or aluminium yachts are like Faraday's cages. Therefore is to be counted that there is only an insufficient receipt.

## Rechargeable batteries

The WIB3 contains three NiMH rechargeable batteries, type AA with a capacity of 2100 mAh. The batteries are charged via the USB-interface of the PC. Fully charged batteries last in use for approx. seven days.

The battery-management of the WIB3 always provides for optimally charged batteries, so you don't have to pay attention about the recharging of the batteries. If you do not want to use the WIB3 for a longer period (longer than one year), it is meaningful to take out the batteries in full-charged condition out of the device and to replace them when needed. Pay particular attention to the correct polarity.

If you want to exchange the batteries, use only fast-chargeable NiMH batteries, type AA with a capacity of min. 2100 mAh. Used up batteries must duly be disposed and do not belong into domestic-waste.

## Operational status indicators

The WIB3 has three light emitting diodes (LEDs), which have the following meaning:

LED	Lights	Meaning
POWER	Steady light	Operation via PC, the batteries are completely charged.
	Flashes evenly	Operation via PC, batteries are charged
	Short flash	Battery-operation
	Off	Device is switched off
WEATHER	Flashes evenly fast	Good reception (DWD, 147,3 kHz)
	Off or irregular flashing	Poor or no reception (DWD)
NAVTEX	Regular shining	Just receiving a NAVTEX-message
	Off	Waiting for a NAVTEX-message

## Specifications

Receipt-frequencies	518 kHz, 490 kHz and 147,3 kHz
PC-interface	USB full speed, socket mini-B 5-pin
Rechargeable battery	3 x NiMH batteries, type AA, 2100mAh
Power input in batterie-operation	Approx. 12 mA
Resolution of the temperature indication	0,1°C
Measurement error of the temperature sensor	±1°C
Resolution of the air-pressure sensor	0,1hPa
Absolute measurement error of the air-pressure sensor	±1,5hPa
Typical long-term stability of the air pressure sensor	-1hPa/year
Air-pressure measuring interval	60s
Maximum recording span air-pressure	7 days
Battery-operation period	Approx. 7 days
Power input USB	450 mA max. when charging, otherwise 17mA
Battery-charge-time	5-6 hours
Operating temperature	0...50°C
Supported operating systems	Windows ME, 2000, XP
Memory for messages	1MB flash-memory
Antenna	Internal ferrit core antenna
Dimensions (LxWxH)	Approx. 121mm x 56mm x 31mm
Weight	186g with batteries, without cable

For inside use only.

## Accessories

### **12 / 24 Volt charge adapter for WIB3**

Item-No.: 38153

Continuous operations on board are possible, independently of the PC.

Cigarette lighter plug with USB socket for charging of the internal batteries via 12 V electrical system. Usable with the USB-cable contained in the scope of supply.

### **230 Volt charge adapter for WIB3**

Item-No.: 38154

### **Nylon bag for WIB3**

Item-No.: 38160

### **NAVTEX translation-support English-German**

Item-No.: NÜ

## Warranty

If the WIB3 exhibits a defect due to production or material defects within 24 months starting from the purchase date, it is either repaired by us or exchanged free of charge against appropriate equipment.

To wearing parts (e.g. housing, batteries, etc.) the warranty applies for six months starting from purchase date.

The warranty does not apply, if the defect is caused on inappropriate treatment or neglect of the manuals.

A receipt of the warranty voucher with purchase date is required.



Devices with a crossed out dustbin label have to be disposed in the European Union via a separate garbage collection at a suitable collective place for the recycling of electric and electronic devices.

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