Operator's manual

Document no.: 4189350083A

Wind Alarm Unit

WAU 100

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1. Introduction

1.1 About the Operator's manual

1.1.1 General purpose

This is the Operator's manual for DEIF's Wind Alarm Unit 100, WAU 100. The Operator's manual provides information for the correct operation of the WAU 100.

1.1.2 Intended users of the Operator's manual

This is the operator's manual for DEIF's Wind Alarm Unit, WAU 100. The manual is for the operator who uses the WAU 100. The manual includes an introduction to the unit (LEDs, push-buttons and screen), basic operator tasks, alarms, logs, more advanced operator tasks, and trouble shooting.

1.1.3 List of technical documentation for WAU 100

Document	Contents
Data sheet	• System description • Technical specifications • Ordering information
Installation instructions	• Mounting • Default wiring for the controller
Operator's manual	• Unit push-buttons and LEDs • Operating the unit • Alarms and log • Using the unit • Troubleshooting

1.1.4 Technical support

You can read about service and support options on the DEIF website, http://www.deif.com. You can also find contact details on the DEIF website.

You have the following options if you need technical support:

- Technical documentation: Download all the product technical documentation from the DEIF website: http://www.deif.com/documentation
- Support: DEIF offers 24-hour support. See http://www.deif.com for contact details. There may be a DEIF subsidiary located near you. You can also e-mail http://deif.com.

1.2 Legal information

1.2.1 Trademarks

DEIF is a trademark of DEIF A/S.

Exxon Mobil is a trademark of Exxon Mobil Corporation.

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2. Overview of the unit

2.1 Introduction

Wind Alarm Unit 100, WAU 100, monitors wind speed and direction, and can activate alarms if their limits are exceeded.

INFO
Alarms must be both configured and the unit operating.

Exxon Mobil Corporation governs the rules for cargo ships and DP ships chartered to be operated for Exxon Mobil. Depending on the chartering type, different rules apply. WAU 100 is made to support the most complex requirements.

Figure 2.1 Wind Alarm Unit, WAU 100

No.	Item	Notes
1.	AGI	Touch screen for general control of the system
2.	Printer	Prints alarms (if configured)
3.	USB 2.x	• USB connection, with protective cap mounted • USB storage to record data log
4.	On/Off	Switch the unit on or off
5.	High 1 alarm acknowledge	Indication and acknowledge high 1 alarm on touch screen
6.	High 2 alarm acknowledge	Indication and acknowledge high 2 alarm on touch screen
7.	Mute high 1 alarm	Mute button for high 1 alarm
8.	Mute high 2 alarm	Mute button for high 2 alarm
9.	Buzzer	Internal buzzer, active when alarm is present

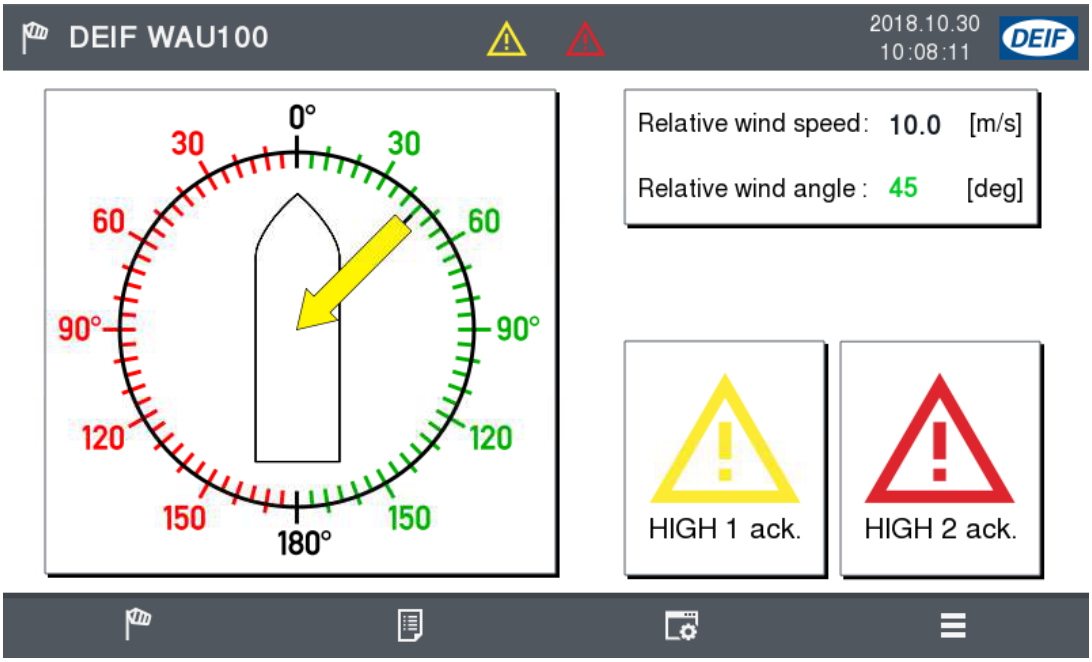
2.2 General functionality

The WAU 100 is typically installed in the cargo room location.

When the wind speed requires monitoring, the unit is switched on at the front.

Operate the WAU 100 by using the touch screen. At the bottom of the screen are the four menu icons.

Figure 2.2 WAU 100 display - Wind mode



Icon	Item	Notes
	Wind mode	Daily operation showing wind speed, direction and information about any alarms. *
	Alarm log	Display the list of alarms.
	Options	Display/edit general settings, including alarm set points.
	Information	Display contact information.

NOTE: * This is the display shown in the figure above.

3. Wind mode

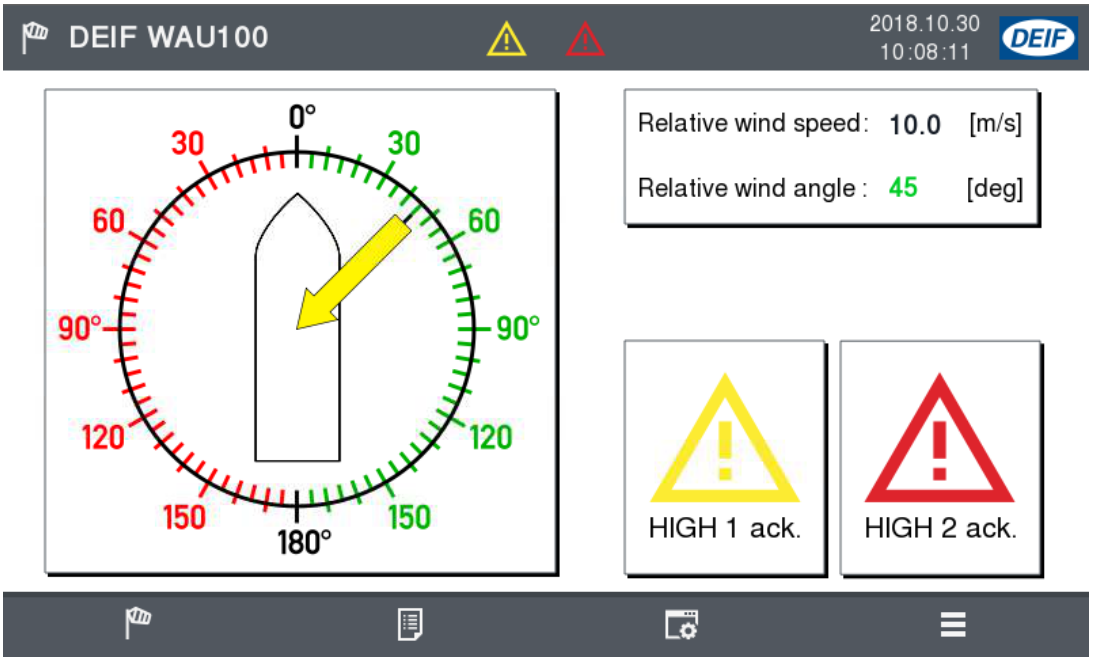
3.1 Introduction

Select Wind mode  to display the current wind speed and direction on the display.

Alarms **High 1** and **High 2** are shown if they are activated.

By default, alarms are printed by the integrated printer. *

Figure 3.1 Wind mode display



The alarms provide notification if the wind speed exceeds the configured set points.

- High 1 alarm is intended as a first warning, configured on the first set point.
- High 2 alarm is intended as a critical warning, configured on the second set point.

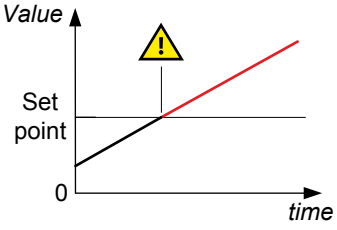
NOTE: * If this feature is not required, the printer can be disabled in the Options menu.

3.2 High 1 alarm

Configure the set point *High 1* under Options.

High 1 alarm activates if the wind speed exceeds the set point.

The alarm response is based on the *High 1* wind speed alarm set point.



1. When the wind speed exceeds the High 1 set point, the High 1 ack. icon flashes on the display and the buzzer activates.
   - If the relay output is configured for High 1 alarm this activates.
2. The buzzer can be disabled/muted by pressing the yellow push-button under the display.
3. To acknowledge the High 1 alarm, press the alarm symbol on the screen.
4. When the high 1 alarm is acknowledged the symbol will stop flashing and be present until the wind speed falls below the defined high 1 alarm limit.

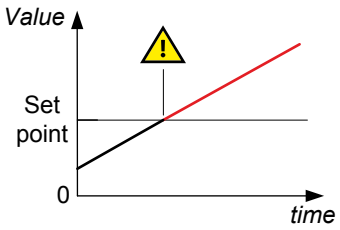
3.3 High 2 alarm

Configure the set point *High 2* under Options .

High 2 alarm activates if the wind speed exceeds the set point.

The alarm response is based on the *High 2* wind speed alarm set point.

This is a critical alarm and any necessary actions must be taken to continue operation.



1. When the wind speed exceeds the High 2 set point, the High 2 ack. icon flashes on the display and the buzzer activates.
   - If the relay output is configured for High 2 alarm this activates.
2. The buzzer can be disabled/muted by pressing the yellow push-button under the display.
3. To acknowledge the High 2 alarm, press the alarm symbol on the screen.
4. When the high 2 alarm is acknowledged the symbol will stop flashing and be present until the wind speed falls below the defined high 2 alarm limit.

3.4 Printed alarm log

The printer function is enabled by default. The printer records information about the date, time, alarm type, wind speed, and wind angle when an alarm occurs.

Figure 3.2 Example printed alarm

```
***** DEIF WAU100 *****
UTC 2018.10.30 12:58:10
RELATIVE WIND
HIGH2 ALARM 30.0 m/s
WIND ANGLE 000 deg


***** DEIF WAU100 *****
UTC 2018.10.30 13:15:51
RELATIVE WIND
HIGH1 ALARM 26.0 m/s
WIND ANGLE 000 deg
```

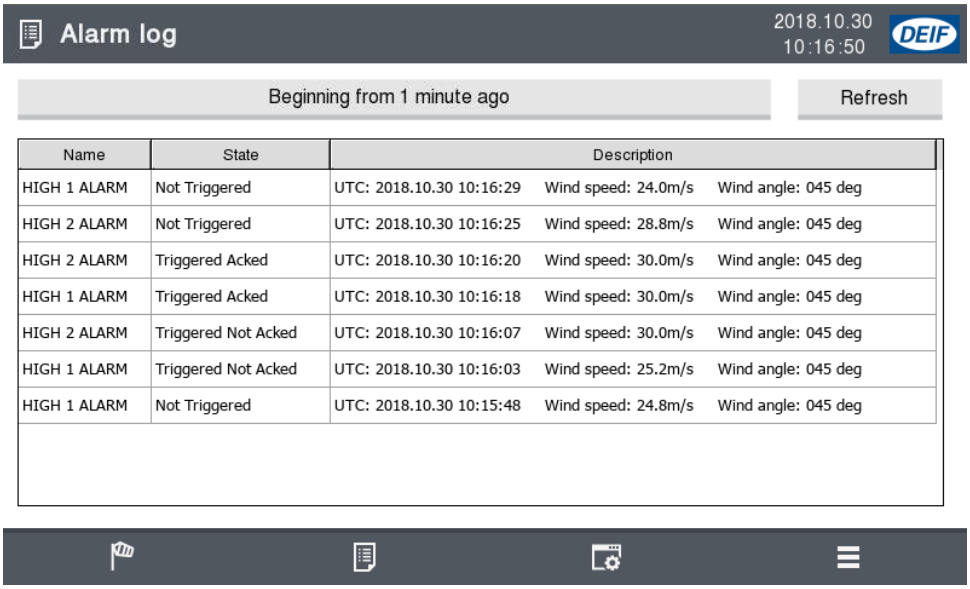
INFO
If you do not need the printed log, you can disable the printing function in the Options menu.

4. Alarm log

4.1 Introduction

Select Information  to display the internally stored alarm log.

Figure 4.1 Alarm log



The alarm log provides you with an overview of all recorded alarms and their state.

Use the filter bar at the top of the display to select a different interval for viewing.

The alarm log is always stored on the internal memory of the unit. The internal log can hold 2000 alarm events, after which the log is automatically overwritten. The oldest events are replaced by new entries.

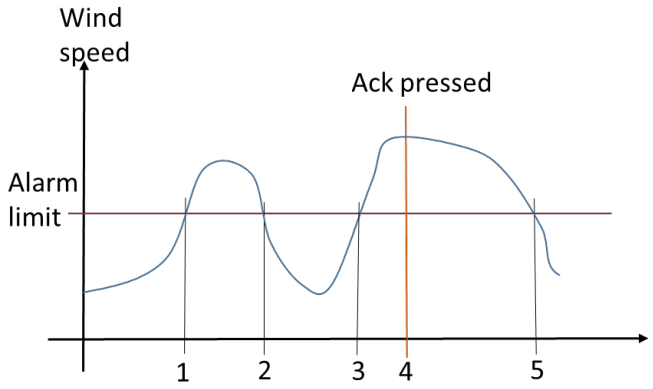
Extend the alarm log recording by using a USB memory device. With USB memory deivce plugged in, after 2000 alarms the USB device will be used for recording. If the USB device has been removed, a warning window is displayed requesting the USB device be plugged back in. If the USB device is not plugged back in, the log is automatically overwritten as above.

You can also manually save the alarm log to a USB device under Options. Press Save log for 3 seconds to save the log.

4.2 Alarm state

In the alarm log the name of the alarm High 1 or High 2, state and time is logged. To explain the different states of the alarm an example used. Here is shown the different alarm stages when the wind speed exceeds or falls below a set alarm limit.

Figure 4.2 Alarm states



No.	Alarm condition	Alarm state *	Notes
1	Active	Triggered Not Acked	Wind speed goes above the alarm set point.
2	Not active	Not Triggered Not Acked	No acknowledgment but the wind speed goes below the alarm set point.
3	Active	Triggered Not Acked	Wind speed exceeds the alarm set point.
4	Active	Triggered Acked	Alarm is acknowledged.
5	Not active	Not Triggered	Wind speed drops below alarm set point.

NOTE: * Alarm state shows the text recorded in the alarm log.

4.3 USB alarm log

On the USB device, the alarm log is saved under a folder named Log. Under this folder the alarm log is saved in folders by year and month. Under this folder is saved a CSV file with the alarm log events recorded by date and time.

The CSV file can be imported into an appropriate spread sheet editing application.

Figure 4.3 Example of an imported CSV file

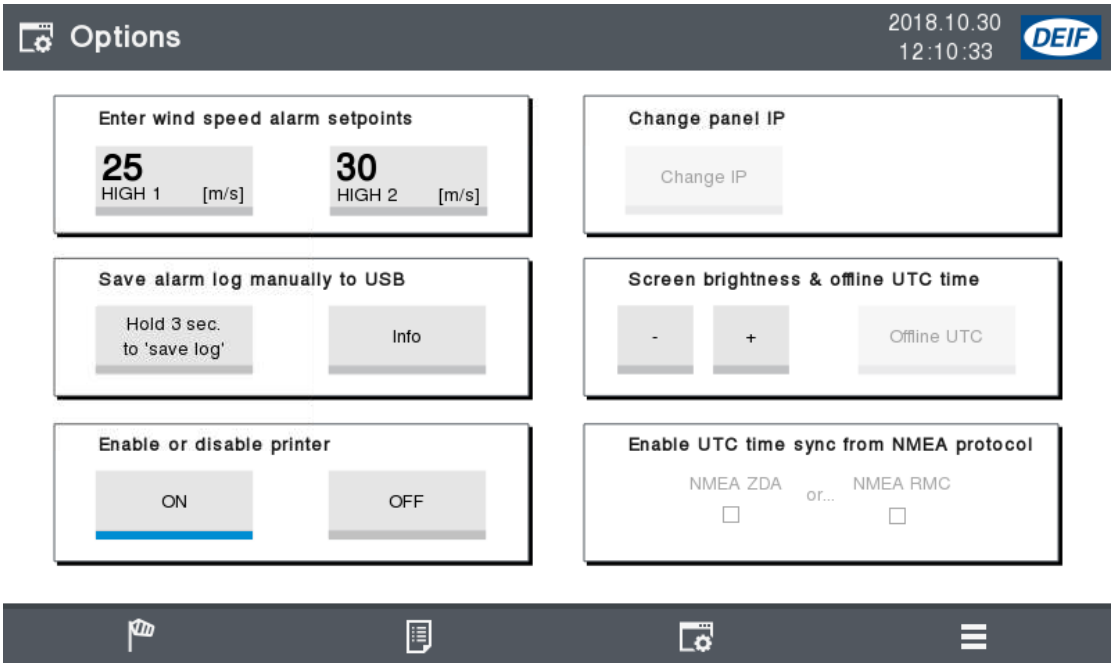
ALARM_NAME	ALARM_STATE	ALARM_DESCRIPTION		
HIGH 2 ALARM	Triggered Not Acked	UTC: 2018.10.30 12:05:35	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Triggered Not Acked	UTC: 2018.10.30 12:05:35	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Triggered Acked	UTC: 2018.10.30 12:05:39	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 2 ALARM	Triggered Acked	UTC: 2018.10.30 12:05:40	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Not Triggered	UTC: 2018.10.30 12:05:46	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 2 ALARM	Not Triggered	UTC: 2018.10.30 12:05:47	Wind speed: 10.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Triggered Not Acked	UTC: 2018.10.30 12:06:07	Wind speed: 26.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Not Triggered Not Acked	UTC: 2018.10.30 12:06:24	Wind speed: 22.8m/s	Wind angle: 045 deg
HIGH 1 ALARM	Triggered Not Acked	UTC: 2018.10.30 12:08:56	Wind speed: 26.8m/s	Wind angle: 045 deg
HIGH 2 ALARM	Triggered Not Acked	UTC: 2018.10.30 12:08:57	Wind speed: 31.0m/s	Wind angle: 045 deg
HIGH 2 ALARM	Not Triggered Not Acked	UTC: 2018.10.30 12:09:31	Wind speed: 25.0m/s	Wind angle: 045 deg
HIGH 1 ALARM	Not Triggered Not Acked	UTC: 2018.10.30 12:09:32	Wind speed: 20.8m/s	Wind angle: 045 deg

5. Option settings

5.1 Introduction

Select Options  to display the settings menu.

Figure 5.1 Options



Here you can configure:

- High 1 / High 2 alarm set points.
- Save the alarm log manually to a USB device.
- Enable or disable the printer.
- Adjust screen brightness and configure offline UTC time.
- Enable to disable NMEA ZDA or NMEA RMC time sync.

5.2 Wind speed alarm set points

Alarm set points for High 1 and High 2 must be configured. With the set points configured the unit can provide alarm monitoring on low or high wind speed.

5.3 Save alarm log

Use this option to manually save the alarm list to the USB device. Press and hold the option for 3 seconds to save the alarm list.

The info option provides you with information on the file structure on the USB device.

5.4 Printer

INFO
The printer is enabled by default.

Enable or disable the printer by selecting ON or OFF.

5.5 Brightness and offline UTC time

Brightness

The brightness level of the display can be adjusted by using the + and - icons.

Offline UTC time

By default, the WAU 100 is set to the current UTC date and time. If the date and time needs to be adjusted, then use Service mode to make any changes.

MORE INFORMATION
See **Information mode, Service mode** in this document for more information about how to enter the Service mode.

With Service mode active, the Offline UTC button can be selected.

Select Offline UTC to configure the date and time settings manually.

Figure 5.2 Offline UTC settings

Here you can change:

- Year
- Month
- Day
- Hour
- Minute
- Second

Select a button to change a value, a virtual keyboard is shown on the display. Edit the value using the keyboard.

Select OK! to save the new date and time settings.

5.6 Synchronise UTC date and time from NMEA

You can synchronise the UTC date and time using NMEA sentences ZDA or RMC. Synchronisation occurs during power up of the WAU 100 unit, it then synchronises every hour or by manual synchronisation. Between synchronisations the internal real time clock controls the date and time of the unit.

To synchronise manually, toggle either ZDA or RMC ON/OFF.

To configure settings for ZDA or RMC functionality, the unit must be in Service mode.

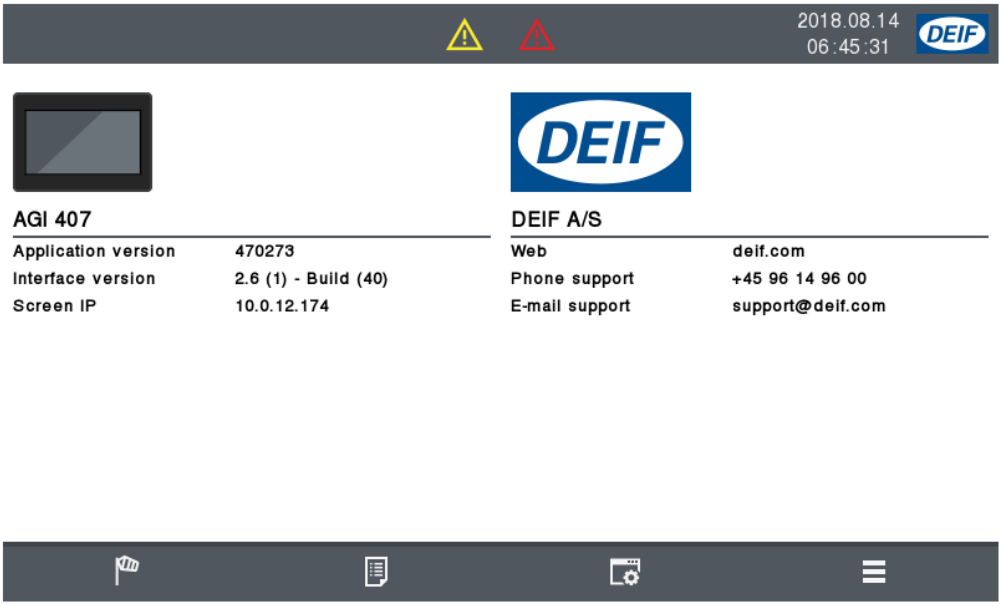
MORE INFORMATION
See **Information mode, Service mode** in this document for more information about how to enter the Service mode.

6. Information menu

6.1 Introduction

The Information menu provides you software version and contact information. It is also where you can enable Service mode for extra functionality.

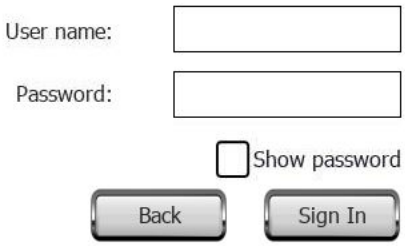
Figure 6.1 Information menu



6.2 Service mode

Access the Service mode by selecting the DEIF logo for 5 seconds. A log on prompt is shown on the display.

Figure 6.2 Service mode log on



Enter User name and Password by using the virtual keyboard that is shown.

- **User name:** service
- **Password:** 2000

INFO
When logged in with Service mode, extra functionality is available in the options menu. After five minutes the unit automatically logs out of Service mode back to normal operation.

7. Troubleshooting

7.1 General troubleshooting

Fault/symptom	Cause/solution	Check
No alarms shown in the alarm log	The alarm log has filtering functionality, so only alarms in a certain time interval are seen. Select a larger interval. The filter function is available in the first line on the screen.	
Not possible to change the alarms settings	High 1 alarm must always be set to a lower value than high 2 alarm.	
Data is flashing Wind pointer and digital readout flashing	WAU 100 detects the data received and checks for the validation. If the status flag in the NMEA sentence is invalid (V) data will be flashing indication data is incorrect. The value flashing will be the last valid data value. Both the graphical wind direction and the digital read out will be flashing.	Check the sensor providing NMEA data. The sensor could be faulty.
Data is flashing Wind pointer and digital readout flashing	WAU 100 detects that data is received continuously. If data has not been received for 10 seconds the wind pointer and digital readout values will be flashing to indicate data is incorrect.	Check the data is transmitted from the sensor.
UTC time is flashing	When using external UTC time to synchronize the time data must be received continuously. If time data is not received for 10 seconds the date and time will start flashing.	Check time from the NMEA sentence ZDA or RMC is transmitted correct.