

RAVAS

USER MANUAL

RAVAS RedBox Display



We would like to inform you about the fact that this RAVAS product is 100% recyclable, provided that parts are being processed and disposed of in the right manner.
More information can be found on our website: www.ravas.com

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PLEASE RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

If you have any queries concerning the duration and terms of the RAVAS warranty, please contact your supplier or check our General Sales and Service Conditions, which are available on request.

The manufacturer accepts no liability for any damage or injury caused by failure to follow these instructions, or from negligent operation or assembly, even if this is not expressly stated in this instruction manual.

In light of our policy of continuous improvement, it is possible that details of the product may differ from those described in this manual. For this reason, these instructions should only be considered as guidelines for the installation of the relevant product. This manual has been compiled with all due care, but the manufacturer cannot be held responsible for any consequences of errors. All rights are reserved and no part of this manual may be reproduced in any way.

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1. Introduction

This manual describes the use of the **RAVAS RedBox Display**. Read this manual carefully. The installer must be informed of the contents of this manual. Always do things in the correct order. This manual should be kept on a safe and dry place. In case of damage or loss the user may request a new copy of the manual from RAVAS.

2. Product identification

2.1 Overview

Product name	RedBox Display
Brand name	RedBox Display
Producers	RAVAS Europe: Veilingweg 17 5301 KM Zaltbommel The Netherlands salesoffice@ravas.com +31 418 515220 RAVAS USA: 1500 Enterprise Pkwy Twinsburg, OH 44087 United States of America salesoffice-usa@ravas.com 330-425-3092
Product serial number	See type plate
Production year	See type plate

2.2 Certifications

This product complies with:

- EMC Directive (2014/30/EU)
- RoHS Directive (2011/65/EU)
- REACH
- CE
- IP65

3. Intended use

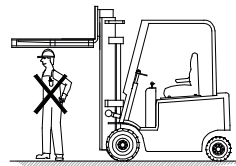
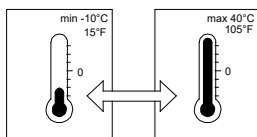
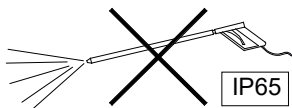
This display is meant to connect to a RedBox system to display a weight and information linked to it, mounted on a pallet truck, stacker, reach truck, fork lift truck or similar piece of material handling equipment. The display is intended for industrial usage in non-explosive environments from -10°C to 40°C and intended for professional usage. The device has wireless communication and a LCD touch screen display running on an external 9 - 48V power supply.

4. Warning & Safety measures

When using the **RAVAS RedBox Display**, please observe the instructions and guidelines contained in this manual carefully. Always perform each step in the right sequence. If any of the instructions is not clear, please contact RAVAS.



- All safety regulations that apply to the truck remain valid and unchanged;
- No weighing operations are allowed if any person or object is in the vicinity; around, under or close to the load;
- Any modifications done to the system must be approved in writing by the supplier, prior to any work being completed;
- It is the sole responsibility of the purchaser to train their own employees in the proper use and maintenance of this equipment;
- Do not operate this unit unless you have been fully trained in its capabilities;
- Check the accuracy of the scale on a regular basis to prevent faulty readings;
- Only trained and authorized personnel are allowed to service the scale;
- Always follow the operating, maintenance and repair instructions of this truck and ask the supplier when in doubt;
- RAVAS is not responsible for errors that occur due to incorrect weightings or inaccurate scales.
- In the event of a fire, harmful gases may be released.



Should you have any further questions after reading this manual then you can contact us at:

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The Netherlands
Changes reserved.

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5. Power supply RedBox Display

Depending on your system, the power supply for the RedBox Display can either come from the truck battery up to 48VDC or from an exchangeable Li-ion battery pack. If the truck battery voltage exceeds 48VDC then an in-line power converter is required. Installation onto

Note: Low battery indications and power saving features are to be implemented in the future.

6. System startup

System will start when the display is powered. The display will show the "System warm up in progress" message while it is establishing a connection to the RAVAS RedBox.

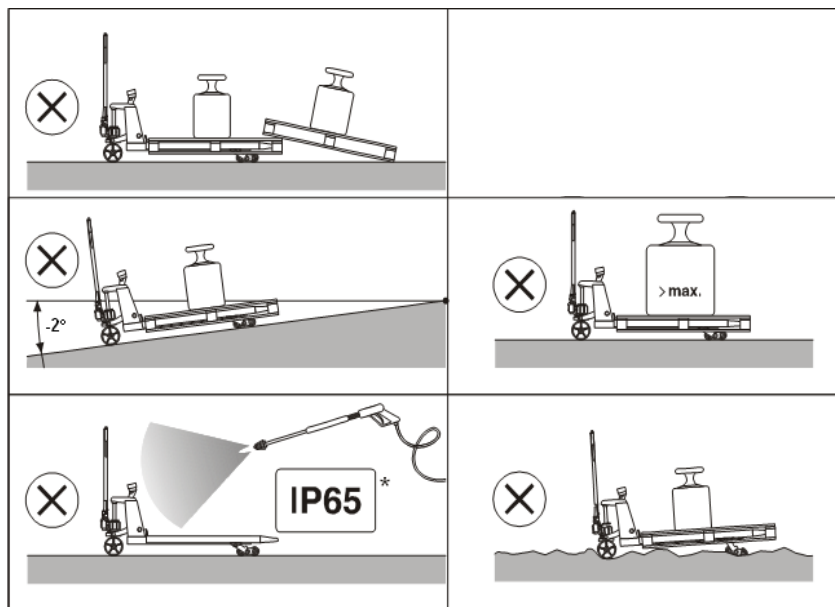
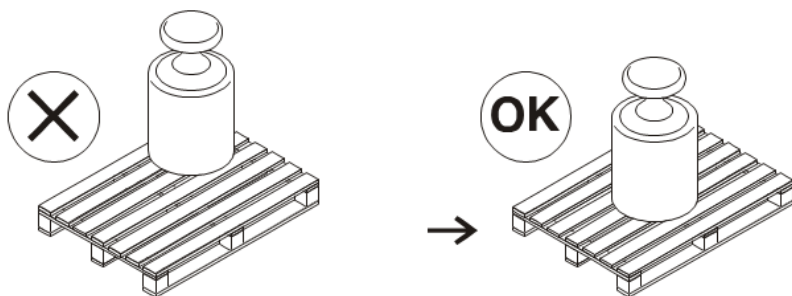
When there is no connection possible, an internal error is shown on the display. In most cases you can use the system within 5 seconds.




The RedBox Display is set up to work as intuitively as possible and the way of operating is similar to a phone or tablet. From the home menu, slide with your finger from the absolute top of the screen downward and a dropdown menu will appear to show notifications, warnings and general settings. It will also show the gear icon for the settings.

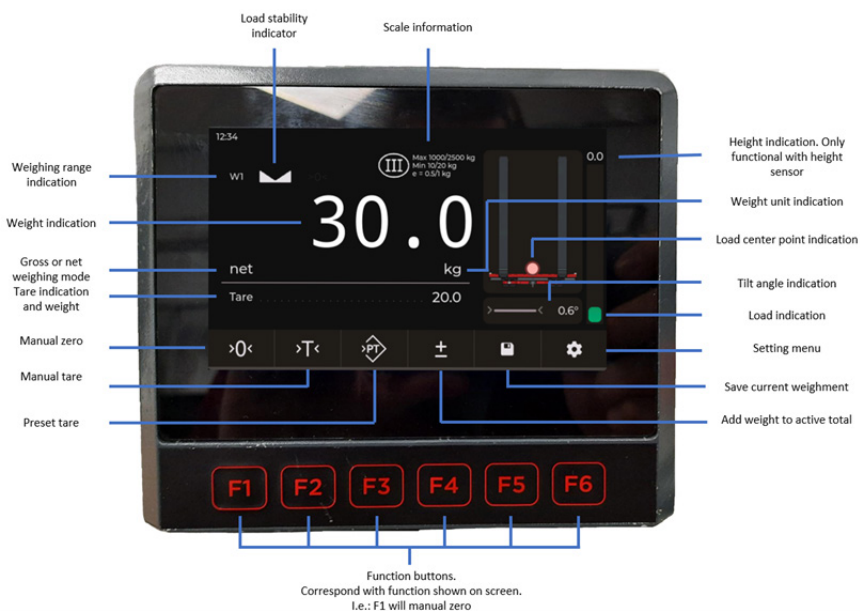
7. Use

7.1 Use (accurate weighing)



* excl. 

7.2 Display functions



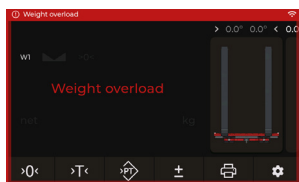
	Meaning
kg	display shows weight in kilograms
lb	display shows weight in pounds
gross	display shows gross weight
net	shows that tare is active
tare	display shows the active tare weight
Weighing mode (e.g. W1)	indicates the active filter mode
Wi-Fi symbol	shows network connection status
scale information	shows all relevant OIML/NTEP details if applicable
load indication	shows a % of the load allowed relative to the max capacity of the scale, and in case of a load diagram added, also relative to the load position
tilt angle indication	shows the angle both forward/backward as well as left/right
height indication	shows the height of the scale relative to the ground
stability indicator	confirms when the weight is stable

7.3 Error messages

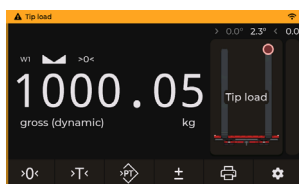
Whenever the system detects a fault or a weighing was not done correctly an error message box will show up in the top-left corner.

Error message	Meaning	Solution
Maximum fork angle exceeded	Scale measures if it is tilted $>3^{\circ}$ too far in one direction	Move the scale back into a horizontal position.
Weight over-load	Load is too heavy for the scale.	Remove the load from the scale.
Weight under-load	Scale has an underload	Add some weight onto the scale or zero the scale
Weight not stabilized	Weight is not stable.	Wait for the weight to be stable.
Zero out of range	Weight is too high to zero scale	Remove the load from the scale.
Negative tare not allowed	Scale is not permitted to tare a gross negative weight.	Lift the load until the weight is positive.
Remove weight before sum	Current weight cannot be saved to the total value.	Remove all weight from the scale and place the weight. Then press the totalize button again
Save not allowed	Action to save the current weight not allowed. Legal-for-Trade guidelines require the scale to go back to zero after each weighing.	Remove current weight from the scale.
Tare while negative	Tare is not allowed when scale has a negative value	Zero the scale
Internal error	Internal system error	Restart the system by disconnecting and reconnecting power

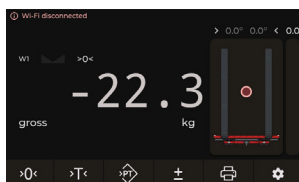
We distinguish three gradations in error messages:



An error message with a red frame means a warning. The system requires adjustment.



An error message with a yellow frame also means a warning, but no immediate adjustments are required.



An error message without a frame is a notification only. No action is required.


7.4 Zeroing the scale

When the scale is empty and the display shows a weight deviation then press the zero scale

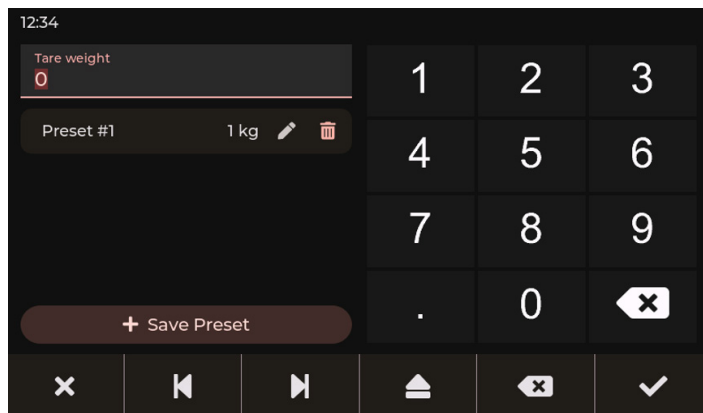
button  to zero the scale.



7.5 Net / tare / gross weight

Net weighing: automatic tare


1. Press the tare button 
2. Scale shows net weight and tare weight.

Net weighing: manual tare



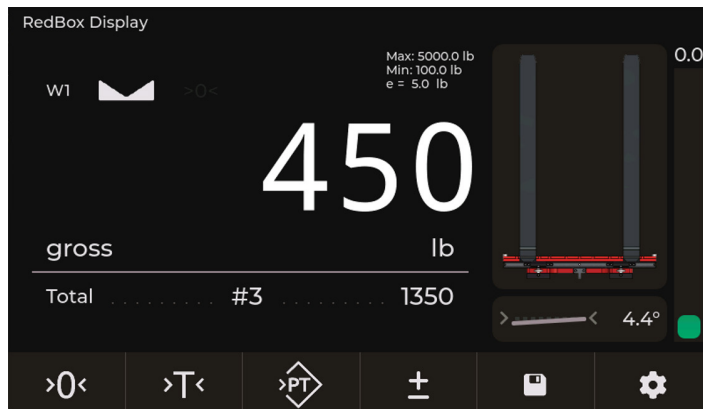
1. Press the tare button 
2. Manual tare screen appears
3. Enter tare value
4. Press the enter button 
5. Net weight and tare weight are now shown
6. Pressing the pencil will allow the preset name to be changed

Resetting tare

1. Press the tare button 
2. Scale will return to gross weight mode


7.6 Totaling

The RedBox Display features a totalizing function. The total weight will be shown when it is active in the following way:




The example shows 3 weighings with a total weight of 1350 lbs

Adding weight to current total weight

1. Wait for the weight to be stable
2. Press the totalize button 
3. The display now shows the amount of saved weighments and the total weight


Note: the weight has to go back to gross zero before another weighing can be added to the total.

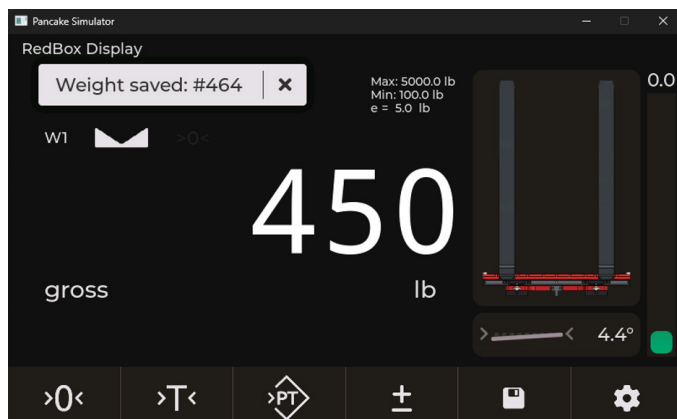
Clearing the total weight

1. Press and hold down the totalize button for 2 seconds 
2. The totalized weight is saved
3. The display will no longer show the current total weight

7.7 Saving a weight

The following steps must be taken to create a legal for trade weighing:


1. Wait for the weight to be stable
2. Press the save button 
3. The unique weighment number will now be shown in the top left corner of the screen. The weighment information related to this number can be looked up following the instructions in chapter 6.5 below Alibi.



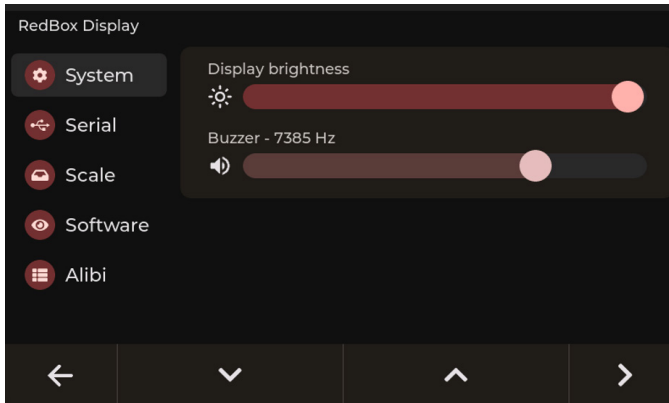
Note: the weight has to go back to gross zero before another weighment can be saved.

8. Settings

8.1 System settings

To enter the user settings menu of the display press the settings  icon in the bottom right corner of the main screen.

Once the settings button has been pressed the system will show the following:



8.1.1 Display brightness

Here you can set the backlight of the screen. A lower percentage for the backlight will save more power. If you work in direct sunlight a higher level of the backlight could be beneficial.

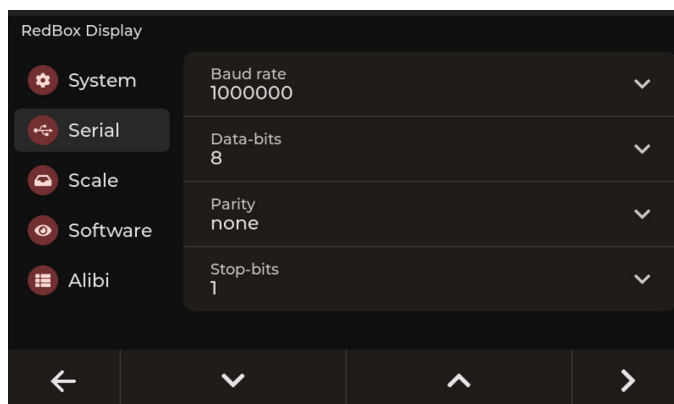
8.1.2 Buzzer settings

In this section you can change the buzzer settings of the display.

8.2 Serial RS485 settings

The Serial communication settings menu allows the user to change communication settings to 3rd party devices. The key settings that can be changed are the following:

Setting	Meaning
Baud-rate	Here you can select the baud rate for the serial interface.
Data-bits	Select the right data-bits format: 7,8,9 bits
Parity	Select the right format for the parity selection
Stop-bits	Select the number of stop-bits that is needed.
Protocol	Select the right version of the protocol that is coupled on the RS485 bus.



8.3 Scale settings

In the Scale settings menu the current connection status between Display and RedBox is shown.

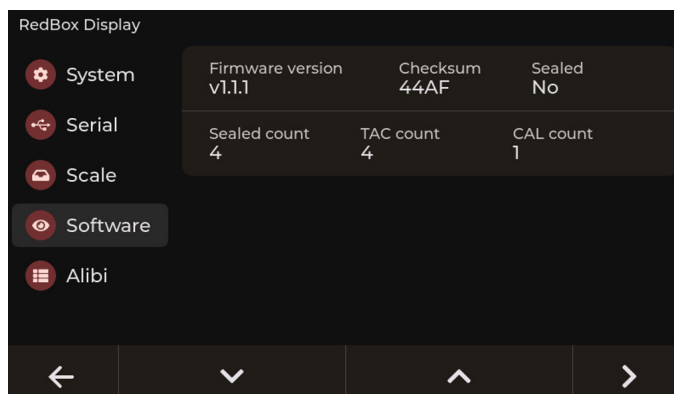
Furthermore, the operator can input the forklift load diagram when utilizing the RedBox Safety Indication features. This load diagram affects the behaviour of the load bar on the main screen as well as affecting certain warning and error messages.



8.4 Software information

The Software information tab is mostly relevant for legal-for-trade system. The tab shows the following information:

	Meaning
Firmware version	Connected RedBox or RedBox Compact firmware version
Checksum	The legal-for-trade parameter and calibration checksum
Sealed	The legal-for-trade seal status
Sealed count	The legal-for-trade seal counter
TAC count	The legal-for-trade parameter changes counter
CAL count	The legal-for-trade calibration changes counter

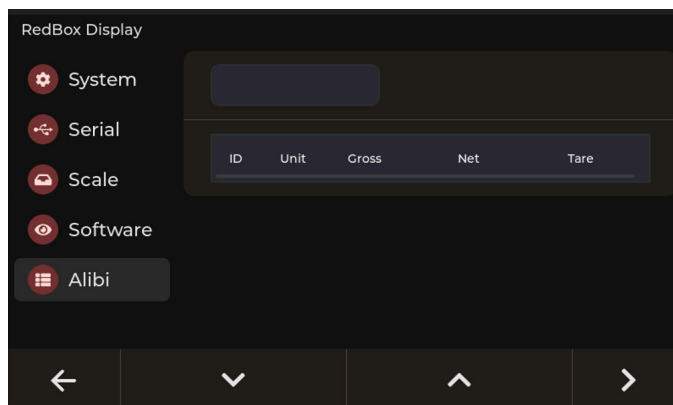


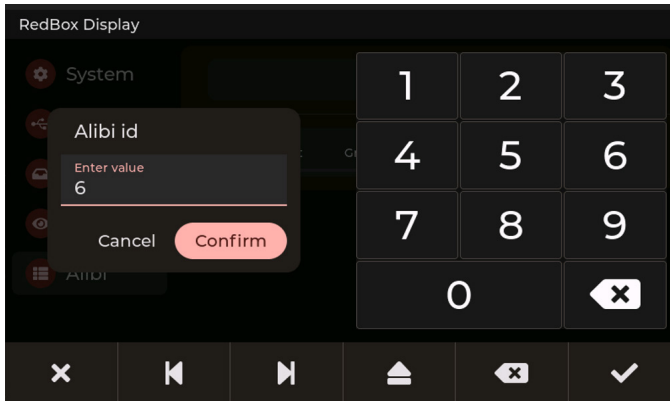
8.5 Alibi

Every legal-for-trade weightment gets assigned a unique identifier that can be used to retrieve the weightment information at a later date. The information stored when the weight is saved is:

	Meaning
ID	Unique weightment identifier, also known as alibi number
Unit	The weight unit, kg or lb
Gross	The gross weight from the unique weightment
Net	The net weight from the unique weightment
Tare	The tared weight used during the weightment
Date	Date information, data to be added in the future
Time	Time information, data to be added in the future

The weightment history can be accessed through the settings menu. The Alibi number tab allows the user to insert the unique weightment number.





The system will then show all related information on the screen.

