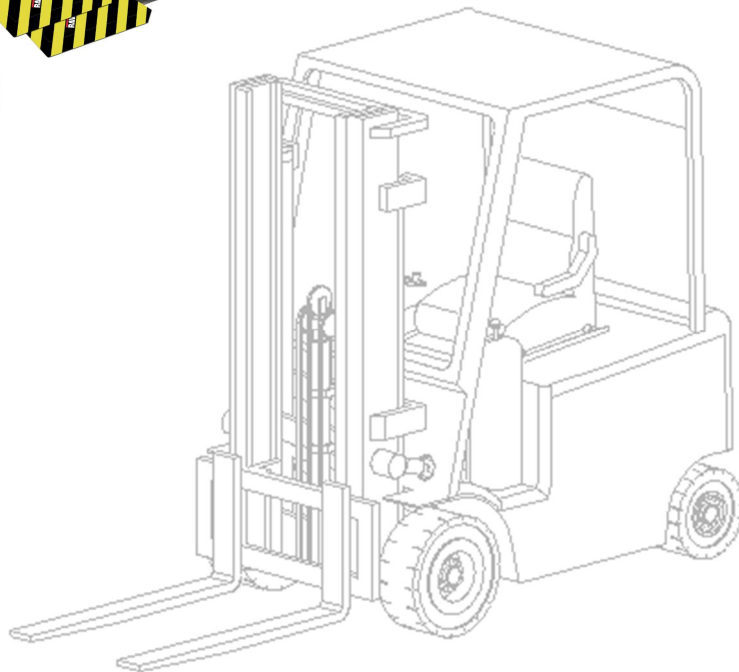




## USER MANUAL RAVAS SafeLoad



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## 1. General information

The RAVAS-SafeLoad is an aftermarket product that can be installed on any brand and model counterbalanced truck. It functions as an interactive load diagram that continuously advises the driver about the truck stability in the actual lifting situation and provides a warning when the lifting is considered unsafe.

Ⓟ For the RAVAS SafeLoad a patent is pending.

## 2. Warnings

**The RAVAS SafeLoad is an advisory system for forklift truck drivers. RAVAS SafeLoad does not intervene with the forklift truck's system hardware, therefore it remains the sole responsibility of the driver to react to the warnings as issued by the RAVAS SafeLoad!**

- After changing the equipment which is mounted on the front of the truck, the RAVAS Safeload has to be calibrated by trained staff/ a RAVAS technician.
- If any components of the RAVAS Safeload are being replaced, the RAVAS Safeload has to be calibrated by trained staff/ a RAVAS technician.
- An annual check of the RAVAS Safeload with reference weights is strongly recommended.

## 3. Installation

Installation should be performed by qualified personnel. Please contact your local forklift truck dealer for this.

## 4. Functional description

The RAVAS SafeLoad uses an oil pressure sensor to measure the hydraulic pressure in the lifting circuit of the truck. Additionally two sensors measure the stress in certain steel parts of the truck, caused by the weight of the load, the moment forces from load centre position and the mast tilt. The two stress sensors can be bolted or stud-welded onto the truck's chassis or mast.

All these inputs are processed centrally by the RAVAS load indicator and presented by means of a LED bar, a buzzer and the LCD display.

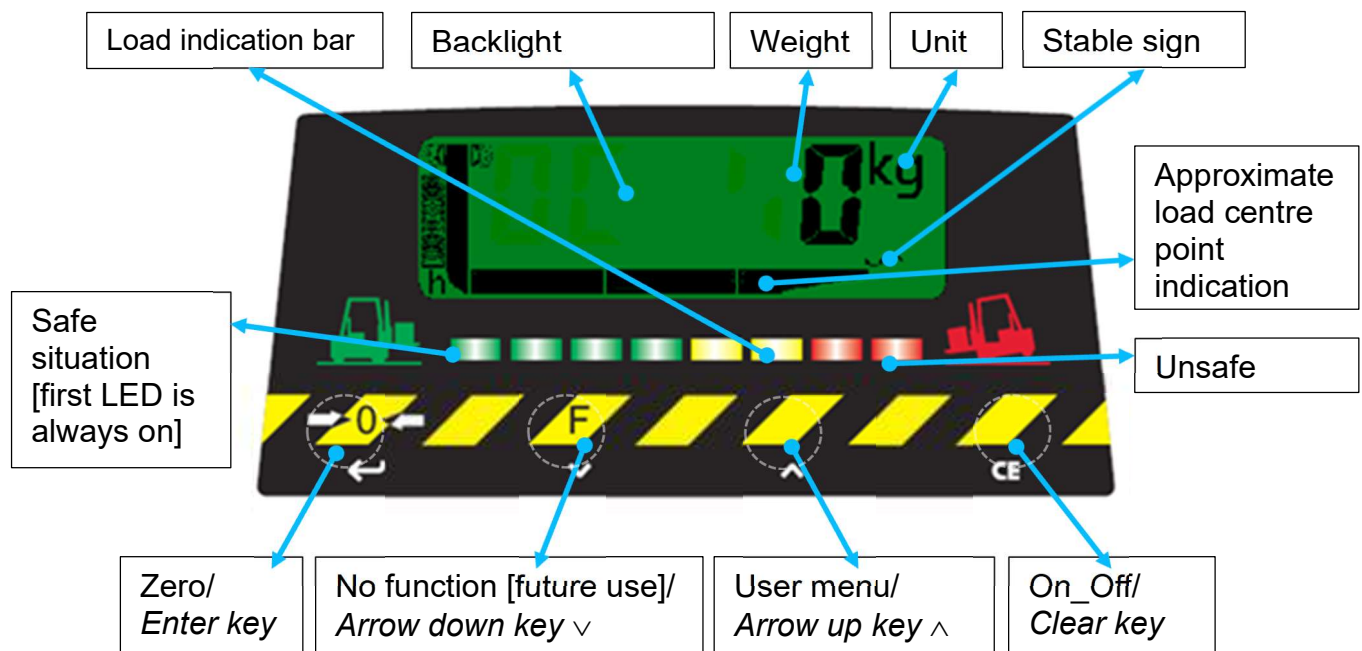
The LED bar below the LCD weight display provides an indication for the truck stability and goes from green (safe lifting), via yellow, to red (unsafe lifting: risk of tipping over). The LED bar stability indication is enhanced by the colour of the weight display (green backlight: safe situations, red backlight: unsafe situations).

Note: side stability is not monitored or displayed.

## 5. Power-up sequence indicator

- Power up the truck to start the RAVAS SafeLoad indicator.
  - All segments will turn on, the buzzer (if activated) will beep shortly and the display will show a green backlight. The complete LED-bar will be lit shortly.
  - Secondly the installed software version (Vx.42) will be shown and the display will show a red backlight.
  - At the end of the start up routine the actual weight will be shown.
  - NOTE: if the weight is within an alarm situation the buzzer will sound.

## 6. Display functions



## 7. User menu

The user menu provides you the possibility to set the date and time, change the backlight brightness settings or read out the Wireless connection ID for logging purposes [only software versions Vx.26 and higher].

- Power up the truck to start the RAVAS SafeLoad indicator.
  - The buzzer (if installed) will beep shortly and the display will show in the following order; all segments on, the software version and the actual weight.
  - NOTE: if the truck is within an alarm situation the buzzer will sound.
- Press and hold the ^ key (arrow up) for 10 seconds.
  - The display will show [timE]
- Press the ∨-key shortly to change the time and date settings.  
Or
- Press the ^ key for the next item of the user menu.

### *Date and Time settings*

- The display will show [ho\_00] with the most right digit blinking.
- Enter the correct hour by using the ^ key, the v key and the ↵-key.
  - The display will show [m\_00] with the most right digit blinking.
- Enter the correct minute by using the ^ key, the v key and the ↵-key.
  - The display will show [dA\_00] with the most right digit blinking.
- Enter the correct day by using the ^ key, the v key and the ↵-key.
  - The display will show [m\_00] with the most right digit blinking.
- Enter the correct month by using the ^ key, the v key and the ↵-key.
  - The display will show [YE\_00] with the most right digit blinking.
- Enter the correct year by using the ^ key, the ^ key and the ↵-key.
  - The display will show [timE].
- To leave the user menu and return to the weigh mode, press the CE-key.
  - The display will show the actual weight.

### *Backlight settings*

- The display will show [Light].
- Press the ↵-key.
  - The display will show [100]. (brightness = 100%)
- Select the desired setting by using the ^ key or the v key. (selections possible are; 100/150/175/200)
  - The display will show [125].
- Press the ↵-key.
  - The display will show [Light].
- To leave the user menu and return to the weigh mode, press the CE-key.
  - The display will show the actual weight.

### *Wireless connection ID address (only with software version Vx.20 and higher).*

- The display will show [UUId].
- Press the ↵-key.
  - The display will show the Wireless connection ID address scrolling from the right to the left.
- To leave the user menu and return to the weigh mode, press the CE-key twice.
  - The display will show the actual weight.

## **8. Manual zero correction**

The RAVAS SafeLoad is always equipped with an automatic zero track function. If a weight is shown on the display without any weight on the forks, it is possible to manually correct this value (up to 20% of the maximum capacity) by using the ->0<- key.

## 8.1 Examples indication situations



Safe load situation: Load at middle position	Overload situation: tiploading	Overload situation: weight too heavy
NOTE: the load centre point segments are only activated if the actual load on the forks is more than 20% of the truck capacity.		

## 9. Error messages

Error message	Meaning	Action
Err01/Err11	Input signal unstable Err01 (oilpressure sensor) Err11 (moment sensor)	Service call
Err04/Err14	Manual zero correction outside range Err04 (oilpressure sensor) Err14 (moment sensor)	Press CE-key or wait 5 seconds for the error message to disappear automatically. Try removing the weight from the forks before using the zero key. If there is no weight on the scale contact your service dealer
Err06/Err16	AD signal too high Err06 (of oilpressure sensor) Err16 (of moment sensor)	Service call
Err99	Using the zero key while in switched units mode	Wait for error message to disappear automatically
Err13/Err15	Zero tracking out of range Err13 (moment sensor) Err15 (oilpressure sensor)	Service call
OLOAD	Overload on maximum weight and/or moment*1	Go back to a safe situation. Remove the weight from the forks or replace the weight closer to the vertical part of the forks
tLtSE	Connection error of the moment sensor	Service call
OilPr	Connection error of the oilpressure sensor	Service call
dLOAD	Dynamic overload	Reduce weight on the forks or omit impacts
-----	Underload*2	Lift the forks from the ground

\*1: This situation will also occur when the mast is lifted to the maximum height and the overflow valve is being activated. Lowering the mast a little should be sufficient to cancel the error message.

\*2: If the height sensor cable is broken the RAVAS SafeLoad will always assume that the forks are in the second mast stage. In the lowest mast position you are most likely to see the underload error [-----] with no load on the forks even if the forks are raised from the floor. Lifting a weight in the base position will in this case generate the wrong weight indication on the display. It is advised to call for service to prevent wrong interpretations.

## **10. Logging functionality**

By default, all overload situations are logged in the RAVAS SafeLoad indicator. It is possible to use this logging functionality by making the data available on a PC/Laptop. By default, all RAVAS SafeLoads are equipped with a wireless connection output. This enables you to log the all data on a Windows 10 PC/Laptop. The logging functionality only works with the RAVAS SafeLoad application, called RAVAS SafeLoad Manager, for Windows10 operating systems. For more information about this functionality and for purchasing a RAVAS SafeLoad Manager license please contact your local forklift truck dealer. The application comes with a separate manual.