RAVAS RCS Plus

RAVAS
creating intelligence

User Manual

User manual

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

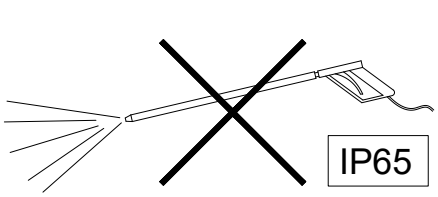
Rev.20250730

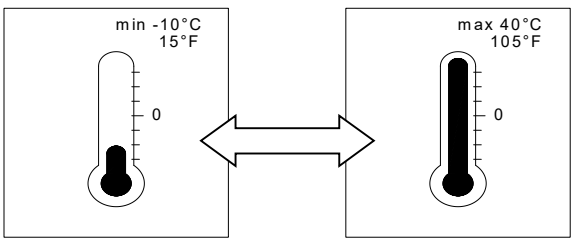
1. Using the RAVAS RCS Plus

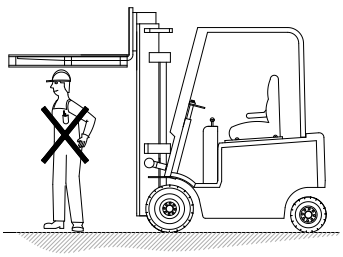
1.1. Warning and safety measures

When using the RAVAS RCS Plus, please observe carefully the instructions and guidelines contained in this manual. Always perform each step in sequence. If any of the instructions are not clear, please contact us.

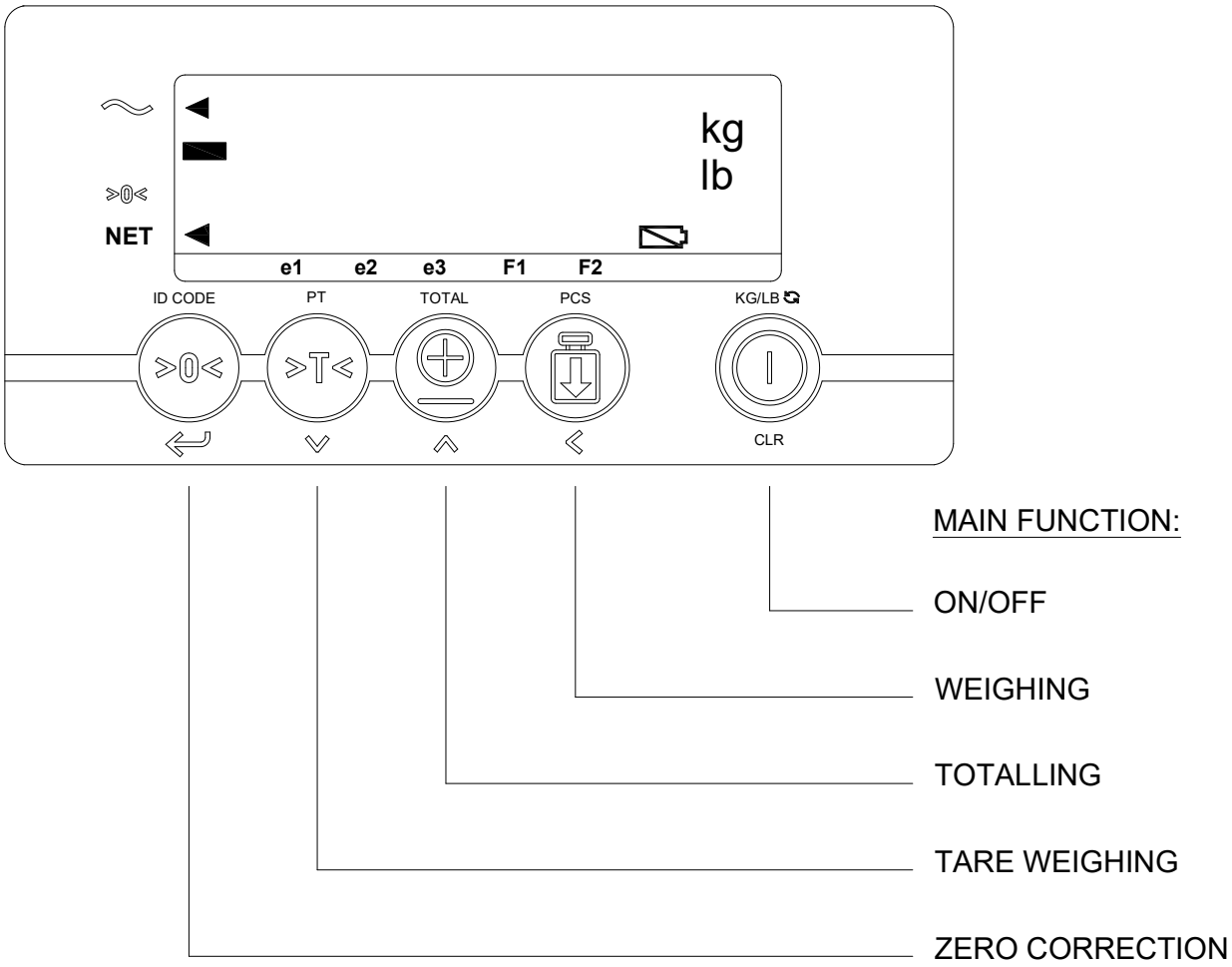
- All safety regulations that apply on the truck remain valid and unchanged
- RAVAS is not responsible for any physical harm done to the operator because of the presence of the indicator in the cabin.
- Any modifications done to the system must be approved in writing from the supplier, prior to any work 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 of 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 weighings or inaccurate scales.
- No weighing operations are allowed if any persons or objects are in the vicinity; around, under or close to the load.
- While weighing, the downwards movement of the forks can be stopped immediately by pressing the on/off (①) key of the indicator.







1.2. Touch panel indicator



Error messages indicator

Displayed error	Meaning	Out of error mode
Err01	Load cell signal is unstable	Disappears when signal is stable again
Err02	Overload on full weighing system	Disappears when overload is removed
Err04	Out of allowed range for zero correction	Press any key
Err06	Input signal too high	Check weighing system (load cells +cabling)
Err07	Input signal too low	Check weighing system (load cells +cabling)
Err08	Calibration out of range (negative)	Follow correct calibration procedure
Err09	Calibration out of range (signal too low)	Follow correct calibration procedure
Err10	Calibration count 2nd(3rd) point lower than count 1st(2nd) point	Follow correct calibration procedure
Err97	Calibration locked (jumper JP1 placed)	Place Jumper JP1 this is located next to the –EX connection
Err98	Calibration point must be higher than previous one	Follow correct calibration procedure
Err99	Action only allowed in start-up units (kg/lb)	Press ON/OFF (CE) key
-----	Negative weight	Automatic after lifting the forks from the ground

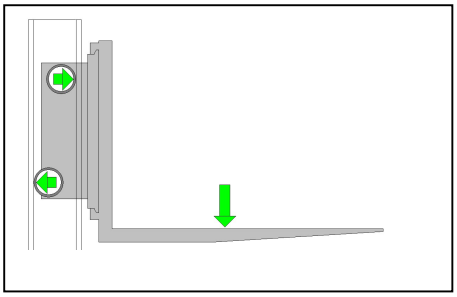
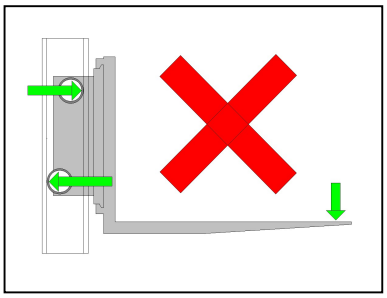
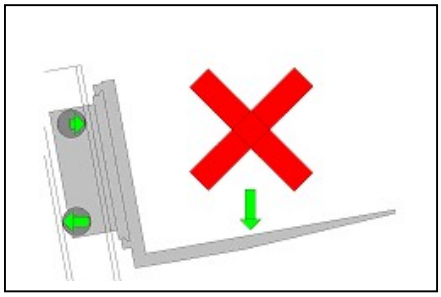
1.3. Turning on/off the indicator

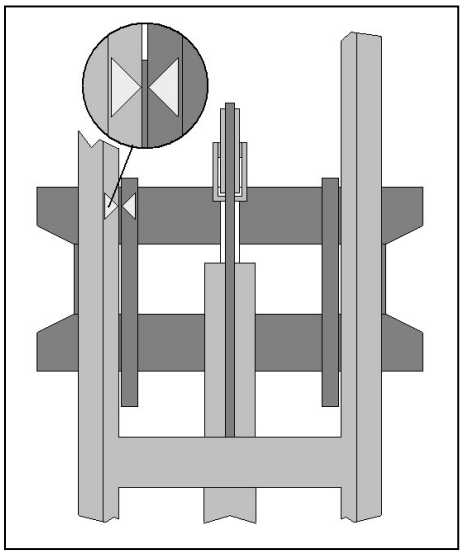
To activate the weighing system, turn it on using the on/off (①) key on the terminal. The indicator will complete the startup routine after 5 seconds. The indicator is in weighing mode.

The indicator can be switched off by pressing the on/off (①) key for 3 seconds.
Always switch off the indicator first before switching off the truck voltage!

1.4. Weighing

- Pick up the load with the forklift truck.
  - Put the center of gravity of the load in the middle of the forks.
  - Keep the mast vertical while weighing.
  - If the truck is equipped with a side-shift, the forks must be positioned in the middle.



- Lift the carriage plate up to the reference height, which is indicated by the yellow stickers.
- Press the ⓜ key shortly.
  - The forks will lower for 4 seconds.
  - The display counts down: “4…3…2...1…”.
  - After having been calculated, the actual measured weight is shown in the display.
  - When the load on the forks is less than 200kg, then the indicator will show the calculated weight as a fixed value for 5 seconds only. After 5 seconds, the indicator will switch into *dynamic mode* and show the actual oil pressure.
- To enable a new weighing, first the forks should be unloaded. Then a new weighing can be done!
- When the forks are being unloaded and the weight on the forks drops below a value of 200kg, the indicator automatically switches into *dynamic mode*:
  - In *dynamic mode*, the indicator shows the actual oil pressure, not the calculated weight. The actual oil pressure is not displayed as a constant value!
  - This gives the truck driver the possibility to execute a zero check, after empty forks have been lifted from the ground.
  - When the weight on the forks is more than 200kg, the display shows “ - “.
  - You can escape from *dynamic mode* by executing a new weighing.

1.5. Zero check and correction

After activating the indicator with the on/off (①) key, 'the zero' should be checked:

- Lift unloaded forks from the ground towards the reference height.
- Check the zero-point, so the value in the display, approximately 5 seconds after the forks have stopped lifting.
  - If the display then shows a deviation of greater than 10 kg, press the >0< key shortly to correct the zero.
  - If the zero deviation is more than 15 graduation steps, then it is not allowed to do a zero correction, subsequently the display will show the error message "Err04". Press the >0< key again to escape from "Err04"and execute a zero calibration (Chapter 2.1).

If a zero correction does not give the desired improvement, see chapter 2: zero calibration.

2. Calibration

2.1. Zero calibration

Make sure the system is unloaded.

- Press the >0< key for 15 seconds, until the display shows "0-Adj".
- Bring empty forks to the reference height with maximum lifting speed.
- Activate calibration-weighing directly afterwards by pressing the ⓜ key shortly:
  - The forks will lower for 4 seconds.
  - The display counts down: "4…3…2...1…".
  - After this weighing, the display will show the calibration percentage for 5 seconds, e.g. "AP-30.2".
  - Subsequently the display shows "0".

If a new zero calibration does not give improvements, see chapter 4:
Recommendations to improve weighing accuracy.

2.2. Span calibration

See installation manual (only needs to be done if the system is inaccurate).

3. Indicator functions

3.1. Net weighing: automatic tare

- Shortly press the >T< key.
  - The display shows “Tare”.
- Press the ⏻ key shortly:
  - The forks will lower for 4 seconds.
  - The display counts down: “4…3…2...1…”.
  - After this weighing, the display will show “0”.
  - The NET sign “◀” is activated in the display, the indicator now operates in net weighing mode.

3.2. Deactivate net weighing mode

To return to gross weighing mode:

- Activate the tare menu again by shortly pressing the >T< key.
  - The display shows “Tare”.
- Shortly press the ⏻ key to deactivate net weighing mode.
  - The “◀” sign after “NET” will be deactivated.
  - Subsequently the display will go back to gross weighing mode.

3.3. Code entry

The indicator offers the possibility to enter 1 numeric code of 5 digits. Entry of codes is useful when the weighing system is connected to a printer or other peripheral equipment, in order to identify various weighings during a later processing of the information.

- Press the ID CODE key (so >0< key) for 3 seconds.
  - The display will show the last used code with the right digit flashing.
- To accept the old value press ENTER (↵).
  - The code is activated and the display returns to the weighing mode.

Or

- Press the ID CODE key for 3 seconds.
- Press the ∧ key to go up a value or press the ∨ key to go down a value until the required value is reached.
- Press < to change to the next digit.
- Repeat this procedure until the required code is displayed.
- To accept the new code press ENTER (↵).
  - The code is activated and the display returns to normal weighing mode.

You may make a printout and add up the weights. A special printout will be made which includes the code. (See option printer).

NOTE: if the code is “00000” it will be ignored and it will not be printed on the ticket.

3.4. Totalling and print out

- Perform a Weighing (Chapter 1.3)
- When the calculated weight is shown in the display, press the ⊕ key to add the calculated weight to the total weight.
  - The indicator shows “Added”.
  - The value of the display is stored and added to the memory.
  - If a printer is installed, a printout will be made. The gross, net and tare weights are totalled.
  - In turn, the indicator shows the sequence number (number of weighings) and the (sub)total.
  - After a few seconds, the system will automatically return to weighing mode.
  - To enable totalization of a next weight, first the forks should be unloaded completely, which means that the oil pressure in *dynamic mode* should drop below the level of 10 graduation steps (20kg). Then a new weighing can be done and totalized afterwards.

- The subtotal calculated and added thus far can be checked (without totalling) by pressing the ⊕ key for 3 seconds.
  - In turn, the indicator shows the sequence number (number of weighings) and the (sub)total currently in the memory.
    - If the ⊕ key is pressed shortly during this period, the total is printed out (if option is installed) and reset to 0.
    - If the “CE” key is pressed during this period, the total is reset but not printed out.
    - If no key is pressed during this period, the subtotal stays in memory and the system returns to the weighing mode.

ATTENTION: the indicator cannot totalize or print out once it is in *dynamic mode*. So weights below 200kg should be added within 5 seconds after weight calculation, otherwise the indicator has already been switched into *dynamic mode*.

3.5. Printer (option)

If the RAVAS RCS Plus has been equipped with a printer, the actual weighing data can be printed out. Date and time are also printed out.
In the printout a gross weight is indicated with the letters “B/G” and a net weight with the letter “N”. The total weight is shown with the letters “TOT”.

Standard printout without code

B/G	1234	kg.
T	34	kg.
N	1200	kg.
Nr.	1	
10/07/03	17:45	

Standard printout with code

CODE	12345	
B/G	1234	kg.
T	34	kg.
N	1200	kg.
Nr.	1	
10/07/03	17:45	

Total printout (always without code)

Tot. B/G	1234	kg.
Tot. T	34	kg.
Tot. N	1200	kg.
Tot. Nr.	999	
10/07/03	17:45	

3.6. Changing the time and date on the printout

If the weighing system has been equipped with a printer, and an option board, the date and time can be printed together with the weight information.

- Press the ⓜ key for 8 seconds, until “ho_00” is shown in the display
  - The display will show “ho_00” or the previous hour time setting, with the right digit flashing.
- To accept the old value press ENTER (↵).
- **Or**
- Press the ∧ key to go up a value or press the ∨ key to go down a value until the required value is reached.
- Press < to change to the next digit and use the ∧ or ∨ key to change the value until the required value is reached.
- To accept the new value press ENTER (↵).
  - The display will show “m_00” or the previous minute time setting, with the right digit flashing.
- Repeat the above procedure to accept or change the minute setting.
  - The display will show “dA_00” or the previous date of the month setting, with the right digit flashing.
- Repeat the above procedure to accept or change the date of the month setting.

- The display will show “m_00” or the previous month setting, with the right digit flashing.

- Repeat the above procedure to accept or change the month setting.
  - The display will show “YE_00” or the previous year setting, with the right digit flashing.
- Repeat the above procedure to accept or change the year setting.
- The indicator will return to normal weighing mode.

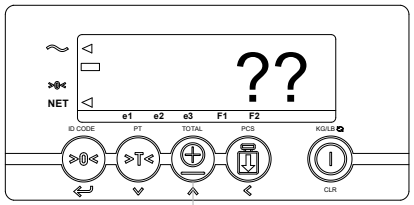
3.7. Change units printout

The system is set to start up in ‘kgs’ or in ‘lbs’. However you may, at any time in the weighing mode, change to the second unit (lb⇔kg or kg⇔lb).

- Press the KG/LB ↻ key shortly.
  - The display will show the current weight in the new units for 5 seconds and then automatically change back to the startup units.

3.8. User settings

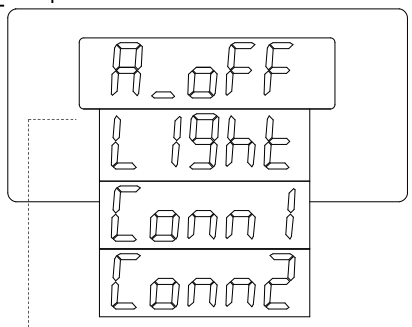
1



> 10 sec

The user menu can be entered by pressing the TOTAL key for 10 sec.

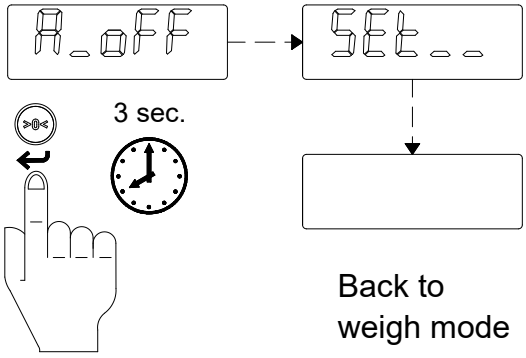
2



These user settings can be changed if desired.
See next pages.

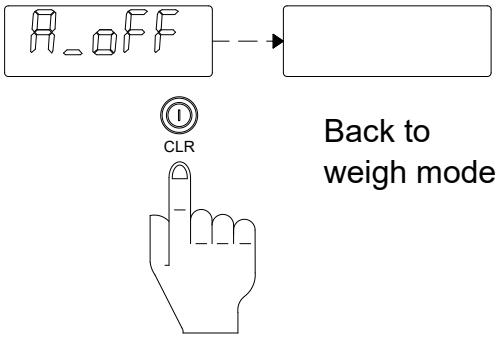
3

EXIT & SAVE



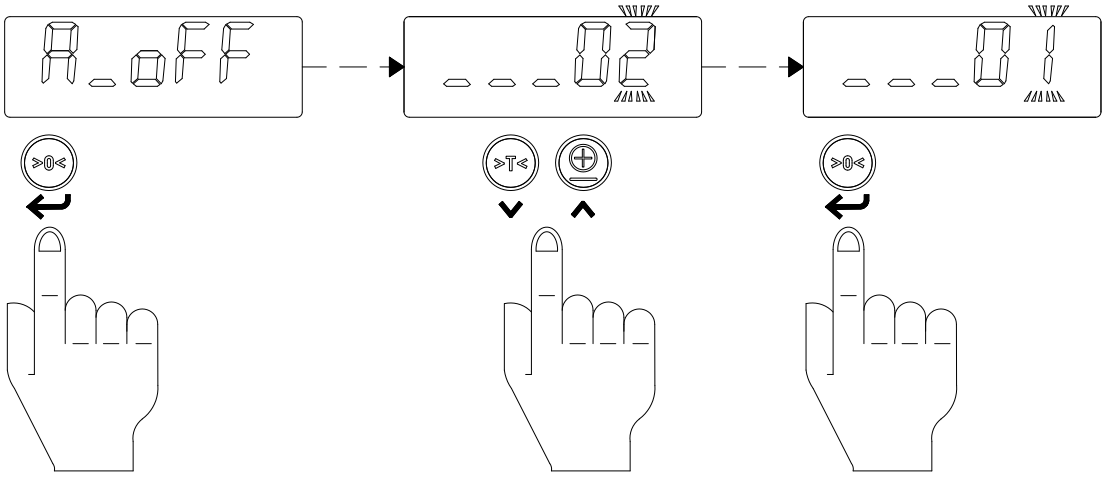
Back to weigh mode

EXIT without SAVING



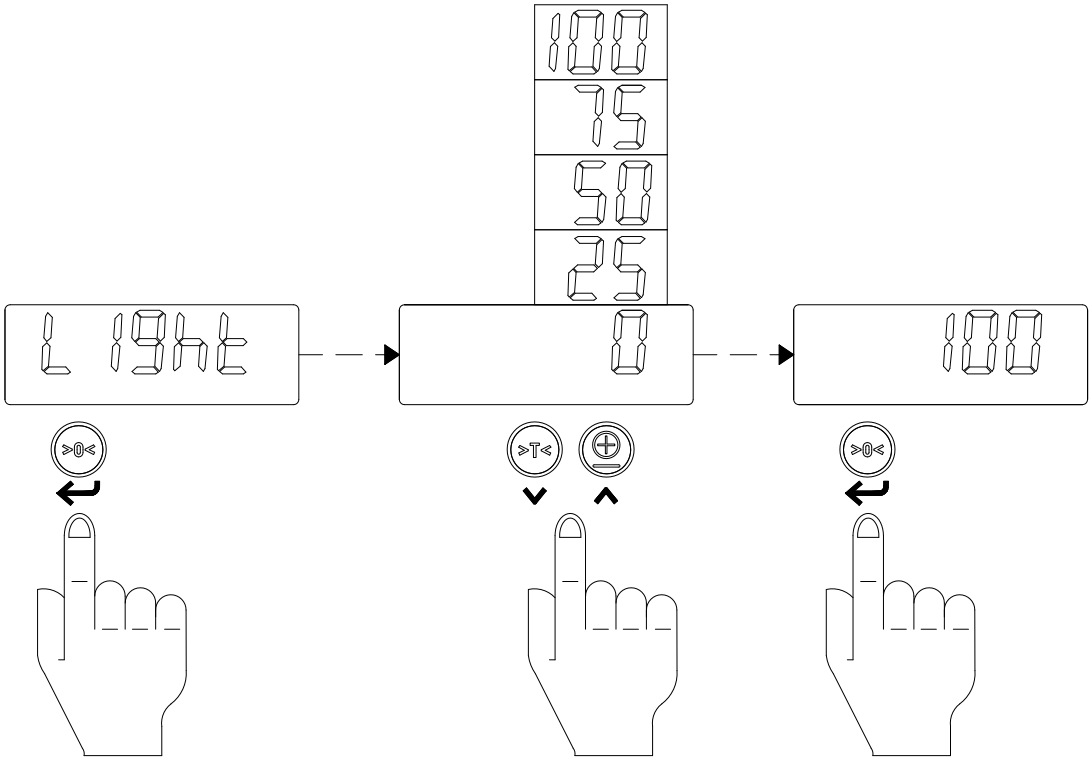
Back to weigh mode

Set the auto shut-off time indicator (delay time in minutes)



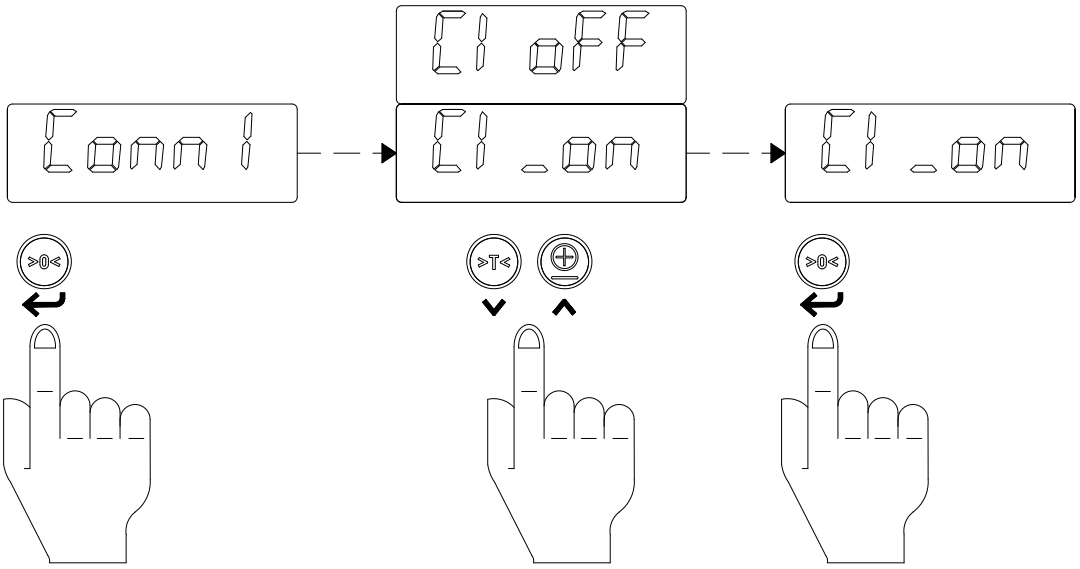
0 min = indicator always on

Set backlight (intensity in %)

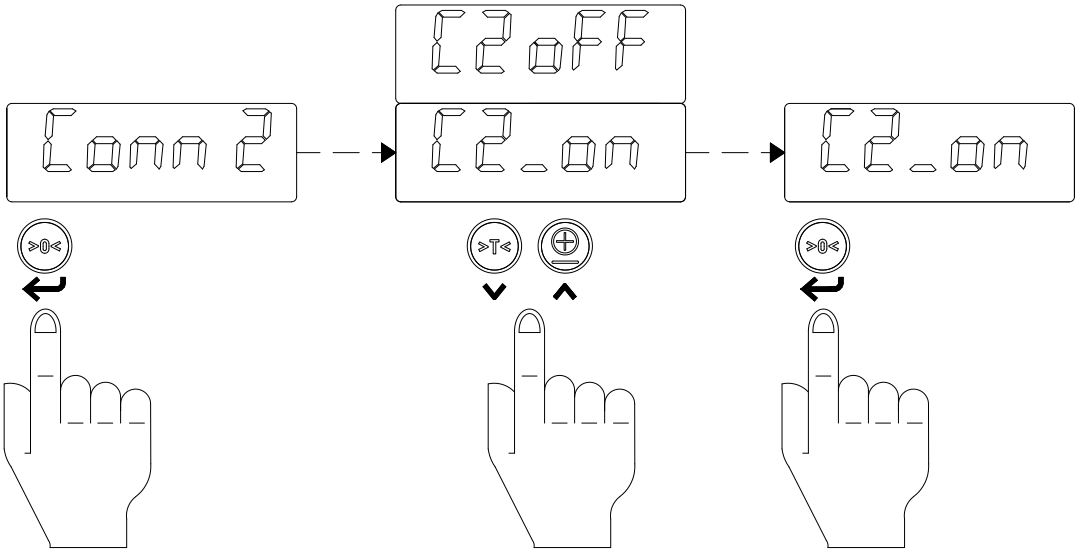


0 % = backlight

(De-) activate Com Port 1



(De-) activate Com Port 2



It is not possible to de-activate Com Port 1

4. Recommendations to improve weighing accuracy

- The center of gravity of the load must be at the middle of the forks. A pallet should be picked up as close to the carriage plate as possible.

- The mast of the fork lift truck must be positioned vertically during weighing.

- Especially the mechanical parts, such as the mast, rollers and bearings, will affect weighing accuracy. Therefore it is important that these parts are in good and constant condition:
  - No local wear
  - Clean
  - Good lubrication of mast and chains
  - Frequent maintenance

- Before executing the first weighing or zero weighing after a long break, be sure the truck is in use for at least 5 minutes. If not, move the forks up and down for a couple of cycles (5).

- Always lift to the reference height with a constant speed. The lifting speed should be the same as during calibration of the system. It is most easy for the truck driver to always lift to the reference height with maximum possible speed.

- Frequently check accuracy of the system by doing a zero weighing, see chapter 1.3. If there is a repeated deviation of more than 2 kg, please perform a new zero calibration. It is recommended to do this frequently, especially after irregular operation cycles, e.g.:
  - After a long break
  - After intensive usage of the truck

- If the RAVAS RCS Plus weighing system is installed on a brand new truck, it is recommended to perform a full recalibration after:
  - 3 months
  - 1 year