RAVAS

USERS MANUAL
RWV-A NTEP

INDEX **page**

1. OPPERATION MANUAL

1.1. TAKING THE SYSTEM INTO OPERATION

To activate the scale turn it on using the on/off (①) button on the terminal.

It is recommended not to lift loads before the zero-point correction has been executed.

1.1.1 USE

The power supply to the system takes place through an exchangeable battery pack. With a completely charged battery pack the total weighing time is about 35 hours (on a system without a printer).

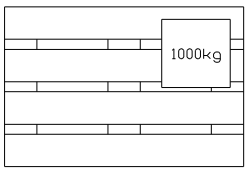
When the voltage level of the battery is running low, the battery symbol " " will appear in the display. When the battery is completely empty, the scale switches off.

When charging, it is necessary to charge the battery for at least 6 hours. This will prevent loss of battery capacity.
If you use the system in shift work or if the system has a built-in printer, it is recommended to purchase a supplementary battery pack.

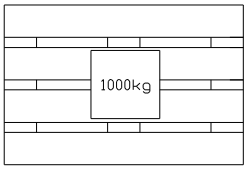
The weight must be lifted freely: without touching other pallets:

The accuracy of the scale diminishes with circa 0.1% per degree starting from a tilted position of 2°. This effect also occurs with pits / potholes in the floor. An even floor is optimal.

The most accurate weighing result is obtained when the centre of gravity of the load is placed between the forks. With a non-centric loading the forks will tordate and bend. This may result in a higher inaccuracy. With legal for trade versions, the level control will switch off the indicator with a non-centric loading or a tilted position that influences the weighing accuracy.



Non-optimal placement of the load



Optimal placement of the load

Temperature range: between -10 and +40°C the maximum inaccuracy is 0.1% of the weighed load.

Fast temperature changes must be avoided because it can cause condensation in the electronics. During acclimatisation the scale must be switched off.

1.2 TOUCH PANEL INDICATOR

Indicator Front

There are 3 display-modes.
The display may show the weight in lbs or in kgs or it shows the number of pieces.
Also the battery sign is integrated in the display in order to show a low battery status.

THE DISPLAY

By means of eight pointer bars the display shows:

~ ◀ the scale (including load) is stable

▬ the weight shown is negative

ZERO ◀ the weight shown is within the zero range

NET ◀ the display is showing the net weight

e1 ▼ displayed weight shown is in range 1

e2 ▼ displayed weight shown is in range 2

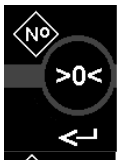
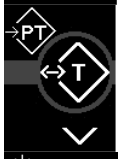
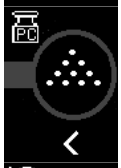
e3 ▼ displayed weight shown is in range 3

stp1 ▼ setpoint 1 is activated

stp2 ▼ setpoint 2 is activated

THE TOUCH PANEL

Each key has 2 operational and one entry function

Key	Function level 1 (short key press)	Function level 2 (long key press)	Function level 3 (entry mode)
	zero setting	code entry	enter
	automatic tare	pre-set tare	decrease the value of the digit flashing
	print weight and add to the total	check subtotal and print total	increase the value of the digit flashing
	sampling a piece weight	enter a piece weight	shift to the next digit on the left
	escape or change units mode	on/off switch	clear entry

IMPORTANT

Operation of a key is not accepted unless the scale is stable (and the “load stable” pointer lights up). This means that the indicator only executes commands with a stable load.

WARNING

When the weighed load surpasses the pre-set maximum, the display shows: “ERR02”. In order to prevent damage to the load cells, the scale must be unloaded immediately.

TILTED POSITION

With the approved version of the scale, the help display shows only small bars with a tilted position larger than 2°. In this case, the scale must be placed in a horizontal position. After this, the system continues executing commands.

1.3. FUNCTIONS INDICATOR

1.3.1. MULTIRANGE (NOT FOR NTEP)

The graduation of the indicator depends on the weighed load:
– from 0 to 500 lbs the weight is shown in 0.5 lb steps and
– from 500 to 1000 lbs the weight is shown in 1 lb steps and
– from 1000 to 5000 lbs the weight is shown 2 lb steps.

Because of the weight dependant graduation, smaller loads are weighed with a higher accuracy. After taring a weight, smaller weights can be added or subtracted in the graduation belonging to the smaller weight. When removing weights, the graduation does not change. For example: if weight is removed from an original load of 650 lbs, upon reaching 500 lbs the display will not change to 0.5 lbs. The weight will still be shown in 1 lb steps.

1.3.2. BEFORE WEIGHING: CHECK ZERO POINT

Before each weighing it is necessary to check whether the system is unloaded and free. The indicator is fitted with an automatic zero correction. This means that small deviations of the zero point will be corrected automatically. If the indicator does not determine the zero point automatically, it must be done manually using the >0< key.

1.3.3. GROSS WEIGHING

After lifting a load, the display shows the gross value of the weighed load.

1.3.4. NET WEIGHING: AUTOMATIC TARE

The indicator offers the possibility to reset tare weights to zero automatically. This way added or subtracted weights can be determined. After taring, the display continues in the smallest graduation step.

- Lift load.
- Press key ⇔T.
  - The indicator is set to zero.
  - The "NET" pointer shows that a tare weight is activated.
- Place or remove the net load.
  - The display shows the net value of the weighed load.
  - When removing load, this is a negative value.
- By pressing the ⇔T key again, the gross weight is displayed.

1.3.5. NET WEIGHING: MANUAL TARE ENTRY

A tare weight can be entered at any moment, either in a loaded or unloaded situation. For a higher accuracy, a tare weight can be entered with a smaller graduation step, independent of the applied load and the active graduation of the indicator. After taring, the display continues in the smallest graduation.

- Press the →PT key for 3 seconds.
  - The display shows the current tare value.
  - The right digit is flashing.
- Press ENTER(↵) if the current tare value is required.

Or

- Press the →PT 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 tare value is displayed.
- Press ENTER (↵) to activate the tare weight.
  - The tare weight is activated.
  - The "NET" pointer lights up.
  - When the system is loaded, the net value appears in the display
  - When the system is unloaded, the read-out displays the negative value of the given tare.
  - The entered value remains active until a new tare weight is entered (display shows the new net weight).
  - Press the ↔T key to return to gross weighing mode.

1.3.6. CODE ENTRY

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

- Press the  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

- Use the ∧ or ∨ and < keys to change the code.
  - The display shows the new code.
- 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 3.11 option printer).

1.3.7. PIECE COUNTING: SAMPLING

If an unknown piece weight is to be determined you may do this by sampling a certain number of pieces. The number of pieces taken from or placed on the scale determines the accuracy of the sampling. The total weight of the pieces taken from or placed on the scale for the sampling should be no less than 9-10 lb. The greater the weight difference, the greater accuracy. The standard sampling amount is 10 pieces, but this number can be increased up to 95 pieces.

- Press the ⁂ key.
  - The display shows “add10”. The ‘lb.’ pointer turns off and the ‘pcs’ pointer goes on.
- Take or place 10 pieces from/on the scale and press the ENTER (↵) key.
  - The sampling is done and the display will show the total number of pieces on the scale.

Or

- Press the ∧ key or the ∨ key to change the number of pieces to add.
  - The display will show the new value to add. (for example “add50”)
- Take or place 50 pieces from/on the scale and press the ENTER (↵) key.
  - The sampling is done and the display will show the total number of pieces on the scale.

You may make a printout and add up the weights. A special printout will be made which includes the piece weight sampled and the number of pieces. (See option printer).

To return to the normal weighing mode press the ↻ key for 1 second.

1.3.8. PIECE COUNT: ENTER A PIECE WEIGHT

- Press the PC key for 3 seconds.
  - The last used piece weight will be displayed with the right digit flashing.
- To accept the old value press ENTER (↵).
  - The display shows the number of pieces currently on the scale.

Or

- Change the piece weight value by using the ∧ or ∨ and < keys.
  - The display shows the new piece weight.
- To accept the new value press ENTER (↵).
  - The display shows the number of pieces currently on the scale.

You may make a printout and add up the weights. A special printout will be made which includes the piece weight sampled and the number of pieces. (See option printer).

To return to the normal weigh mode press the ↻ key for 1 second.

1.3.9. TOTALING

The indicator offers the possibility to add weighings and show the total weight. When a tare weight is active, the net weight is added automatically.

- Load the system with the weight that should be added.
- Press the ⊕ key to add the weighed load to the total weight.
  - The display shortly shows the message “ADDED” and then automatically returns to the weighing mode.
  - If a printer is installed, a printout will be made. The gross, net and tare weights are totalled.
  - No weight can be recorded twice. The system needs to be returned to the net zero-range before another weight can be added up.
- The subtotal can be checked by pressing the ✳ key for 3 seconds.
  - The display shows the net total weight and the number of weightings totalled so far repeatedly for 3 seconds.
    - 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 after 60 seconds.

ATTENTION: For NTEP only possible when the scale is empty.

1.3.10. CHANGE UNITS

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

- Press the ↻ key for 1second.
  - The display will show the current weight in the new units for 5 seconds and then automatically change back to the start up units.

The same key is used to change from the piece counting mode back to the weighing mode. (See 3.7./3.8).

1.3.11. PRINTER

If the scale has been equipped with a printer, obtained and entered weighing data can be printed. Date and time are only printed out with the option board installed.

In the printout a gross weight is indicated with the letters “B/G” and a net weight with the letter “N”. A manually entered tare weight will also be printed and is indicated with the letters “PT”. The total weight is shown with the letters “TOT”.

Standard printout without code

```
B/G  1234.5  lb.
T      34.5  lb.
N    1200.0  lb.

Nr.         1
10/07/03    17:45
```

Standard printout with code

```
CODE   12345
B/G    1234.5    lb.
T        34.5    lb.
N      1200.0    lb.

Nr.    1
10/07/03         17:45
```

Piececount printout without code

```
B/G  1234.5  lb.
T      34.5  lb.
N    1200.0  lb.

PcWt 1.234  lb.
Qty  12345  PCs

Nr.         1
10/07/03    17:45
```

Piececount printout with code

```
CODE   12345
B/G    1234.5    lb.
T        34.5    lb.
N      1200.0    lb.

PcWt    1.234    lb.
Qty    12345    PCs

Nr.    1
10/07/03         17:45
```

Total printout (always without code)

```
Tot. B/G 1234.5    lb.
Tot. T     34.5    lb.
Tot. N   1200.0    lb.

Tot. Nr. 999
10/07/03    17:45
```

1.3.12. CHANGING THE THERMAL PAPER ROLL

In construction

1.3.13. 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 6 seconds.
  - 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.

1.3.14. RELAY (OPTION)

If this option is used, it is no longer possible to use ‘piece-counting mode’. The setting of the set-points for the relay is done with the same key as is used for sampling or entering a piece weight.

Relay technical specifications: Type: Zettler AZ833-12DE
Coil voltage: 12VDC
Switched capacity: max. 30VDC/2A

The choice of relay application is made when the system is ordered and the program is selected in the parameter menu. The instructions for use depend on the application chosen.
Four different applications are possible; 1 – overload check gross weight
2 – overload check net weight
3 – dosing/filling with manual start
4 – dosing/filling with auto start

1.3.14.1. Overload check gross weight

In this setting set-point 1 is activated as soon as the gross or net value exceeds the set-point value. In this case the set-point value is an absolute value.

To enter a new value:

- Press the ⁂ key.
  - The display shows the last entered value with the left digit blinking. The pointer for set-point 1 is on.
- Press ↵ to accept the old value.
  - The set-point value is activated and the display returns to the weighing mode.

Or

- Press the ⁂ key.
- 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 value is displayed.
- Press ↵ to accept the new value.
  - The set-point value is activated and the display returns to the weighing mode.

1.3.14.2. Dosing/filling with manual start

In this setting set-point 1 and 2 are switched on as soon as the tare key has been activated and after the set-point values have been entered.

To enter new set-point values:

- Press the ⁂ key.
  - The display shows the last entered value with the left digit blinking. The pointer for set-point 1 is on.
- Press ↵ to accept the old value.
  - The value for set-point 1 is activated. The display shows the last entered value for set-point 2 with the left digit blinking. The pointer for set-point 2 is on.

Or

- Press the ⁂ key.
- 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 value is displayed.
- Press ↵ to accept the new value.
  - The set-point value is activated and the display returns to the weighing mode.
  - The display shows “tare”.

Filling:
Place an empty container on the scale.

- Press the ⇔T key.
  - The display shows the net value and the pointers stp1 and stp2 are on.
  - Relays 1 and 2 are closed.
  - As soon as set-point 1 is reached, pointer stp1 will turn off and relay 1 will be opened.
  - As soon as set-point 2 is reached, pointer stp2 will turn off and relay 2 will be opened.
  - The display shows “done” for a few seconds and will return in the normal weighing mode.
  - The net weight is displayed. A printout may be made at this point.

It is possible to cancel the filling procedure at any time by pressing the CE key (see 3.14.4).

Dosing:
Place a full container on the scale.

- Press the ⇔T key.
  - The display shows the net value and the pointers stp1 and stp2 are on.
  - Relays 1 and 2 are closed.
  - As soon as set-point 1 is reached, pointer stp1 will turn off and relay 1 will be opened.
  - As soon as set-point 2 is reached, pointer stp2 will turn off and relay 2 will be opened.
  - The display shows “done” for a few seconds and returns in the normal weighing mode.
  - The net weight is displayed. A printout may be made at this point.

It is possible to cancel the dosing procedure at any time by pressing the CE key (see 3.14.4).

The printout will show the following:
- The gross weight is the weight of the container with rest material.
- The tare weight is the weight of the container with material before dosing.
- The net weight will show a minus sign as token of weight being removed from the scale.

1.3.14.3. Dosing/filling with automatic start

In this setting set-point 1 and 2 are switched on as soon as the set-point values have been entered. The tare action is done automatically in this mode.

To enter new set-point values:

- Press the ⁂ key.
  - The display shows the last entered value with the left digit blinking. The pointer for set-point 1 is on.

- Press ↵ to accept the old value.
  - The value for set-point 1 is activated. The display shows the last entered value for set-point 2 with the left digit blinking. The pointer for set-point 2 is on.

Or

- Press the ⁂ key.
- 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 value is displayed.
- Press ↵ to accept the new value.
  - The set-point value is activated and the display returns to the weighing mode.
  - The display shows “tare” and the indicator automatically tares out the scale after the scale has been stable for a few seconds.

↙Attention: be sure the container is already in place at this moment!

Filling & Dosing:

- The display shows the net value and the pointers stp1 and stp2 are on.
- Relays 1 and 2 are closed.
- As soon as set-point 1 is reached, pointer stp1 will turn off and relay 1 will be opened.
- As soon as set-point 2 is reached, pointer stp2 will turn off and relay 2 will be opened.
- The display shows “done” for a few seconds and will return in the normal weighing mode.
- The net weight is displayed. A printout may be made at this point.

It is possible to cancel the filling or dosing procedure at any time by pressing the CE key (see 3.14.4).

The printout will show the following:

- The gross weight is the weight of the container with rest material.
- The tare weight is the weight of the container with material before dosing.
- The net weight will show a minus sign as token of weight being removed from the scale.

1.3.14.4. Cancelling the dosing or filling

It is possible to cancel the filling or dosing procedure at any time by pressing the CE key.

- Press the CE key to stop the procedure.
  - The display shows “Stop” and the relays are opened. Pointers Stp1 and Stp2 will be turned off.
    - Press ENTER to start the procedure again.

- The display sign “Stop” is cleared and the net weight is displayed again. The relays are closed. Pointers Stp1 and/or Stp2 will be turned on.

Or

- Press the CE key to stop the procedure.
  - The display shows “done” for a few seconds and will return in the normal weighing mode.
  - The net weight is displayed.

2. SAFETY INSTRUCTIONS

1. NEVER lift a heavy load with just the points of the forks. This could damage the electronic
   weighing elements permanently.
2. NEVER weigh without a pallet. This could affect the accuracy of the weighing result.
3. We advise you not to move any weights above 1650 lb. (750 kg) with the unit. Human beings are not built for that kind of labour. However the unit may be loaded with weights up to 5000 lb.
4. Use caution in the vicinity of moving parts - these parts can cut and/or crush hands, arms, feet and legs.
5. Always center the load you are lifting on both the forks.
6. Do not operate the scale on ramps, inclines or declines, without the addition of our optional parking brake.
7. Do not operate the scale while other employees are on or near the unit. No riding!
8. All modifications must be approved in writing from the supplier, prior to any work being completed.
9. It is the sole responsibility of the purchaser to train their own employees in the proper use and maintenance of this equipment.
10. Do not operate this unit unless you have been fully trained by your employer.
11. Do not use the scale in potentially explosive areas.
12. Do not carry passengers with the truck.
13. Do not weld or make changes to the scale without consulting the supplier.
14. Do not lift unstable loads.
15. Check the accuracy of the scale on a regular basis to prevent faulty readings.
16. Only trained and authorized personnel are allowed to operate the truck.
17. Always follow the operating, maintenance and repair instructions of this truck and ask the supplier when in doubt.
18. Never lower loads if you are not sure if you place the goods on a stable floor or potentially can hurt other persons.
19. Always remain with the scale during dosing applications. Incorrect lifting of the pallet can cause overflowing.
20. RAVAS is not responsible for errors that occur due to incorrect weighings or inaccurate scales.

3. INSTALATION INSTRUCTIONS

Under construction

4. CALIBRATION

The calibration mode can only be reached from the standard weighing mode. You cannot get into the calibration mode when you are in piece count mode.

DEFINING ZERO

- Unload the system.
- Switch the system on.
- To enter the zero calibration mode press the >0< key for 10 seconds.
  - After 3 seconds the display will show the last entered code.
  - After 7 seconds the display will go into the zero calibration mode and start adjusting.
  - The display will show “Adj08” and run down until “Adj00”. The adjustment has been completed.
  - The indicator shows the percentage of the total capacity that was adjusted. For a normal scale this would be between 5 and 8 percent. A larger percentage could mean one or more load cells are broken. A lower percentage could mean the fork cover is not mounted.
  - The zero point has been defined, the system automatically returns to the standard weighing mode.

SINGLE POINT CALIBRATION

- Press the ⇔T key for about 10 seconds.
  - After 3 seconds the display will show the last entered pre-set tare value.
  - After 7 seconds the display will go into calibration mode.
  - The display will show the first calibration point with the pointer “e1” flashing.
- Using the ∧ and ∨ keys you can see the three earlier programmed values on the display.
  - The pointer will move through e1-3. “e1” is the first calibration point, “e2” the second and “e3” the third.

When calibrating only one point the second and third values should be set to zero.

- Use the ∧ and ∨ keys to move to the second calibration point.
  - The display will show the pointer “e2” flashing.
- Press the ↵ key.
  - The display will show the previously entered calibration value, with the last segment flashing.
- Use the ∧, ∨ and < keys to return all the segments to zero.
- Press the ↵ key.
- Use the ∧ and ∨ keys to move to the third calibration point.
- Repeat the above to set all the segments to zero.
- Press the ↵ key.

Calibrating the single point

- Use the ∧ and ∨ keys to return to the first point.
  - The indicator shows the value of the first calibration point, with the “e1”pointer flashing.
- Load the scale with a known weight.
- Press the ↵ key to enter this weight onto the indicator, the first segment starts flashing.
- Use the ∧ and ∨ keys to change all the segments until the proper weight has been entered.
- Press the ↵ key to return to calibration mode. The “e1” pointer will start flashing.
- Press the ↵ key for 3 seconds to confirm the entered weight.
  - This calibration number counts down from Adj 08 to Adj 00, the first calibration point has now been set.
- Leave the calibration mode by pressing the ∧ or ∨ key until AP XX appears. This number indicates the calibration sensitivity percentage, eg AP 07.
- Press the ↵ key.
  - The display now shows the value of the gravitation constant. Use the ∧, ∨ and < keys to correct this for your position.
- Press the ↵ key to return to the standard weighing mode.

MULTI-POINT CALIBRATION

- Push the ⇔T key for about 10 seconds.
  - After 3 seconds the display will show the last entered pre-set tare value.
  - After 7 seconds the display will go into the calibration mode.
  - The display will show the first calibration point with the pointer “e1” flashing.
- Using the ∧ and ∨ keys you can see the three earlier programmed values on the display. The pointer will move through e1-3. “e1” is the first calibration point, “e2” the second and “e3” the third.
- Use the ∧ and ∨ keys to return to the first point.
  - The indicator shows the value of the first calibration point, with the “e1” pointer flashing.
- Load the weighing system with a known weight.
- Press the ↵ key to enter this weight onto the indicator.
  - The first segment will start flashing.
- Use the ∧, ∨ and < keys to change all segments until the proper weight has been entered.
- Press the ↵ key to return to calibration mode.
  - The “e1” pointer will start flashing.
- Press the ↵ key for 3 to confirm the entered weight.
  - This calibration number counts down from Adj 08 to Adj 00, the first calibration point has now been set.
- Move to the second calibration point.
  - The display will show the pointer “e2” flashing.
- Repeat the procedure for a second known weight. Be aware that the value of this weight has to be higher than that of the first weight. If not, the display will show ERR98 and return to the entry mode for the calibration point.
- Repeat the procedure for the third known weight. Leave calibration mode by pressing the ∧ or ∨ key until AP XX appears.

- This number indicates the calibration sensitivity percentage, eg AP 07.

- Press the ↵ key.
  - The display now shows the value of the gravitation constant. Use the ∧, ∨ and < keys to correct this for your position.
- Press the ↵ key to return to the standard weighing mode.

5. TROUBLE SHOOTING

ERROR MESSAGES INDICATOR

Displayed error	Meaning	Out of error mode
Err01	Load cell signal is unstable	Automatic after correction loadcell signal
Err02	Overload on full weighing system	Automatic after removing weight
Err03	Gross negative. This action is not allowed	Automatic
Err04	Out of zero range	Press any key
Err05	Sampling accuracy too low	Press any key
Err06	Input signal too high	Automatic after correcting input
Err07	Input signal too low	Automatic after correcting input
Err08	Calibration out of range (negative)	Automatic
Err09	Calibration out of range (signal too low)	Automatic
Err10	Calibration count 2nd(3rd) point lower than count 1st(2nd) point	Automatic
Err11	Calibration from within piece counting mode	Automatic
Err14	Setpoint value 2 < setpoint value 1. This is not allowed	Automatic
Err 20	No proper loadcell signal during start up	Automatic
Err97	Calibration locked (jumper JP1 placed)	Automatic
Err98	Calibration point must be higher than previous one	Automatic
Err99	Action only allowed in start-up units (kg/lb)	Automatic
-----	Under -2% of weight capacity (only NTEP)	Automatic
or		
-----	Level error >2% out of level (only NTEP)	Automatic

DISPLAY MESSAGES

Text printed out	Text in display	Function
Err00	Err01	Display error message
AddEd	AddEd	Display the word added
Add10	Add 10	Display the value to add
Adj08	Ad_J08	Display adjusting cycle

TarE	tArE	Display the word tare
DonE	donE	Display the word done
PA 00	PA 00	Display the parameter number
StoP	StoP	Display the word stop
….	**....**	Printing in progress
ho 00	ho 00	Display the settings for hours
m 00	m 00	Display the settings for minutes
dA 00	dA 00	Display the settings for days
m 00	m 00	Display the settings for months
yE 00	yE 00	Display the settings for years

6. SPARE PART LIST

RWV Autonome NTEP

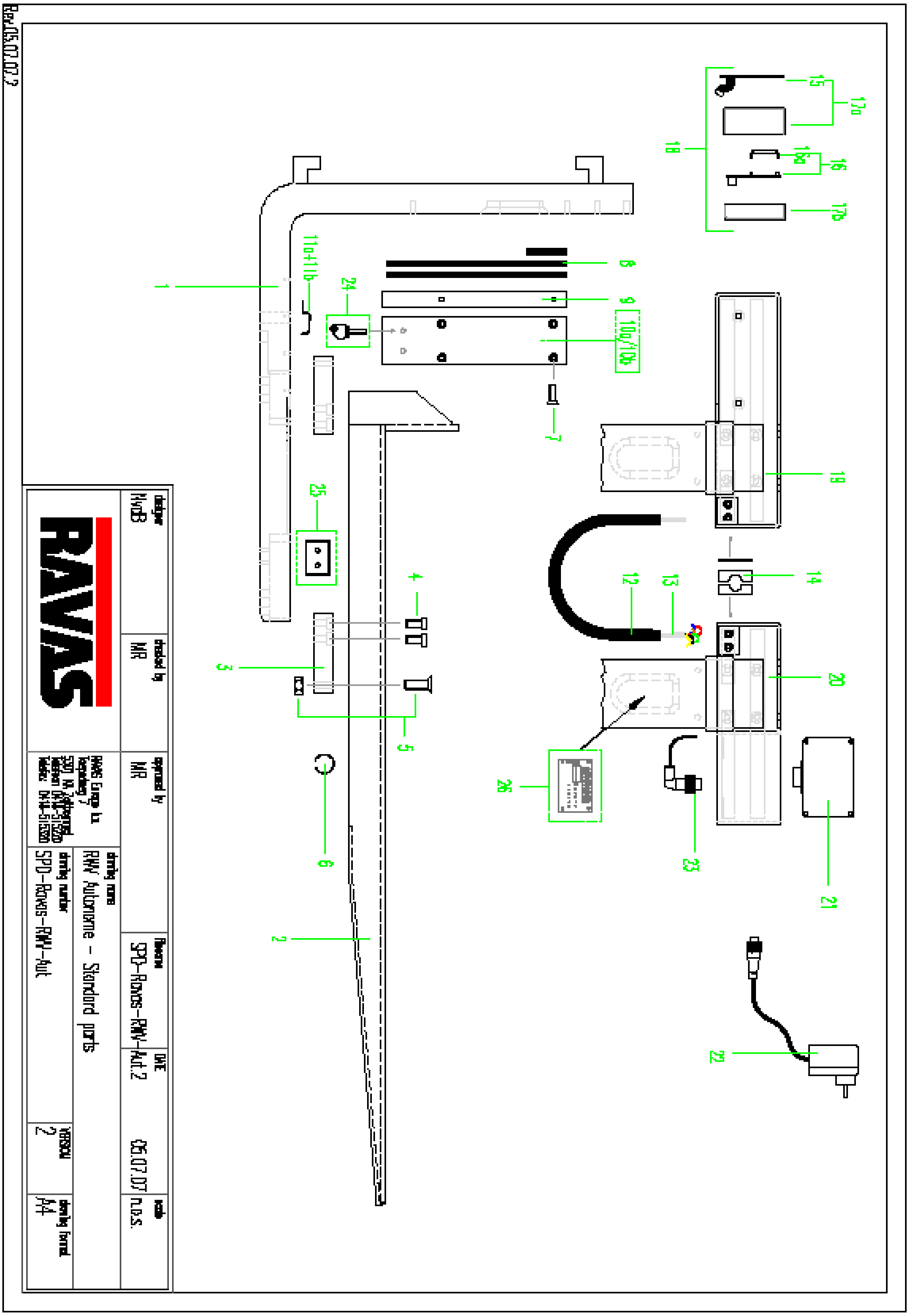
SPARE PARTS LIST

05.09.07

No.*	Art. Nr.	Description	No.	USD
1	896141834.5	forks FEM 2A 1150mm	1	1.446,25
2	899192040	set fork shoes	1	975,00
3	891112259.1	load cell 2000 kg NTEP	4	643,75
6	896132130	load cell cylinder	8	6,25
7	894207010	sealing screw	2	6,25
8	896207010	rubber sealing plate	2	4,38
10	899192079.2	cable cover plate	2	47,50
11	899192079.1	cable strips	4	41,25
11	897172700	cable clamp	8	6,25
12	896152256	hydraulic hose	1	37,50
13	893152922	cable for load cell	1	3,75
14	897172694	bracket 16 mm	2	7,50
15	892205000.1	touch panel indicator	1	62,50
16	892142560	indicator board	1	709,75
17	893141171	indicator housing	1	20,00
19	899192079.5	housing left side (indicator)	1	257,50
20	899192079.6	housing right side (battery)	1	257,50
21	898141200	battery module (complete)	1	141,25
22	893142457	charger 110V	1	140,00
23	893151352	connector 4-polar (male) - frame part	1	12,50
25	893142060	level switch 2* (approved version)	1	246,25
26	893161500	load cell calibration board	2	95,00

* reference number drawing SP-RWV-AUTO-01

prices per piece/meter, excl. VAT, price changes reserved



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NvdB
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MR
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RMV Autonome - Standard parts
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2
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7. WIRING INFORMATION

Loadcell: Wiring Instructions / Anschlussanweisung / Instructions de connexion / Istruzioni per il collegamento

Specifications / Spezifikationen / Spécifications / Specifiche

- Capacity of 1000, 2000, 4000 or 10000 lb
- Capacité de 1000, 2000, 4000 ou 10 000 lb
- Portata da 1000, 2000, 4000 o 10000 lb
- Nickel plated or stainless Acier ou Inox Acciaio o Inox
- Sensitivity 3mVolt per Volt
- Sensibilité de 3mVolt par Volt
- Sensibilità di 3mVolt per volt
- In & output resistance 350 Ohm
- Résistance d'entrée et de sortie de 350 Ohm
- Resistenza di entrata & uscita di 350 Ohm

- Capacité van 1000, 2000, 4000 of 10000 lb
- Kapazität 1000, 2000, 4000 oder 10000 lb
- Nikkel of roestvrijstaal Vernickelt oder Edelstahl
- Gevoeligheid van 3mVolt per volt Empfindlichkeit 3 mVolt per Volt
- In- & uitgangsweerstand van 350 Ohm Ein- und Ausgangswiderstand 350 Ohm

Pin	Function Fonction Funzione	Funktie Funktion	Colour Couleur Colore	Kleur Farbe	Remarks Remarques Osservazioni	Opmerkingen Anmerkungen
	Excitation + Alimentation + Alimentazione +	Voeding + Versorgung +	Red Rouge Rosso	Rood Rot Zwart		
	Excitation - Alimentation - Alimentazione -	Voeding - Versorgung -	Black Noir Nero	Schwarz Wit		
	Signal - Signal - Segnale -	Signaal - Ausgangssignal -	White Blanc Bianco	Weiss Groen		
	Signal + Signal + Segnale +	Signaal + Ausgangssignal +	Green Vert Verde	Grün		

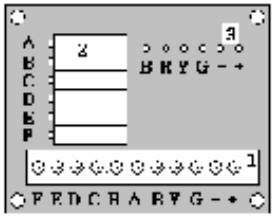
Rev.01.11.05.1

Loadcell calibration board 4 to 6 load cells: Wiring instructions / Aansluitgegevens / Instructions de connexion / Anschlusshinweise / Istruzioni per il collegamento

Specifications / Specificaties / Spécifications / Spezifikationen / Specifiche

- 4 or 6 potentiometers of 10 Ohm are placed in the excitation line of each loadcell. Before calibration the potentiometers are set in the middle, at 5 Ohms. The output of a loadcell can be increased by turning clockwise and decreased by turning anti-clockwise.
- 4 ou 6 potentiomètres de 10 Ohm sont placés sur l'alimentation de chaque capteur. Avant l'étalonnage, les potentiomètres sont placés à mi-course, à 5 Ohms. Le signal de sortie du capteur peut être augmenté en tournant le potentiomètre dans le sens des aiguilles d'une montre et diminué en le tournant dans le sens inverse.
- 4 o 6 potenziometri da 10 Ohm sono posizionati sulla linea di alimentazione di ogni cella di carico. Prima della calibrazione i potenziometri vengono regolati al centro, su 5 Ohm. Il segnale dei potenziometri aumenta se si gira in senso orario e diminuisce nel senso antiorario

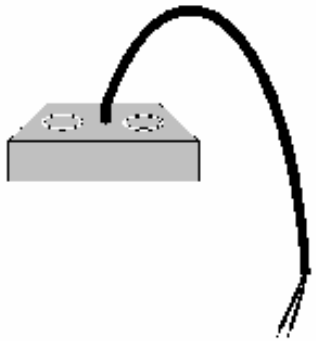
4 of 6 potentiometers van 10 Ohm zijn geplaatst in de lijn van de voeding van iedere krachtopnemer. Voor calibratie zijn de potentiometers gezet in het midden, op 5 Ohms. Het signaal van de krachtopnemer wordt verhoogd door met de klok mee te draaien en verlaagd door tegen de klok in te draaien.
4 oder 6 Potentiometer mit je 10 Ohm sind jeder Lastzelle zugeordnet. Vor der Kalibrierung sind die Potentiometer auf Mittelstellung, bei 5 Ohm zu setzen. Durch drehen im Uhrzeigersinn steigt das Signal, entgegengesetzt fällt das Signal der Lastzelle.



Connector 1 / Connecteur 1 / Connettore 1

Pin	Function / Fonction / Funzione	Funktie / Funktion	Colour / Couleur / Colore	Kleur / Farbe	Remarks / Remarques / Osservazioni	Opmerkingen / Anmerkungen
F	Excitation of load cell F Alimentation de capteur de pesage F Alimentazione della cella di carico F	Voeding van krachtopnemer F Versorgung von Lastzelle F	Red Rouge Rosso	Rood Rot		
E	Excitation of load cell E Alimentation de capteur de pesage E Alimentazione della cella di carico E	Voeding van krachtopnemer E Versorgung von Lastzelle E	Red Rouge Rosso	Rood Rot		
D	Excitation of load cell D Alimentation de capteur de pesage D Alimentazione della cella di carico D	Voeding van krachtopnemer D Versorgung von Lastzelle D	Red Rouge Rosso	Rood Rot		
C	Excitation of load cell C Alimentation de capteur de pesage C Alimentazione della cella di carico C	Voeding van krachtopnemer C Versorgung von Lastzelle C	Red Rouge Rosso	Rood Rot		
B	Excitation of load cell B Alimentation de capteur de pesage B Alimentazione della cella di carico B	Voeding van krachtopnemer B Versorgung von Lastzelle B	Red Rouge Rosso	Rood Rot		
A	Excitation of load cell A Alimentation de capteur de pesage A Alimentazione della cella di carico A	Voeding van krachtopnemer A Versorgung von Lastzelle A	Red Rouge Rosso	Rood Rot		
B	Excitation (-) of all load cells Alimentation (-) de tous les capteurs de pesage Alimentazione (-) di tutte le celle di carico	Voeding (-) van alle krachtopnemers Versorgung (-) von allen Lastzellen	Black Noir Nero	Zwart Schwarz	All wires have to be connected together Tous les conducteurs doivent être connectés ensemble Tutti i fili devono essere collegati insieme	Alle draden moeten samen aangesloten worden Alle Kabel miteinander verbinden
Y	Signal (-) of all load cells Signal (-) de tous les capteurs de pesage Segnale (-) di tutte le celle di carico	Signaal (-) van alle krachtopnemers Ausgangssignal (-) von allen Lastzellen	White Blanc Bianco	Wit Weiss	All wires have to be connected together Tous les conducteurs doivent être connectés ensemble Tutti i fili devono essere collegati insieme	Alle draden moeten samen aangesloten worden Alle Kabel miteinander verbinden
G	Signal (+) of all load cells Signal (+) de tous les capteurs de pesage Segnale (+) di tutte le celle di carico	Signaal (+) van alle krachtopnemers Ausgangssignal (+) von allen Lastzellen	Green Vert Verde	Groen Grün	All wires have to be connected together Tous les conducteurs doivent être connectés ensemble Tutti i fili devono essere collegati insieme	Alle draden moeten samen aangesloten worden Alle Kabel miteinander verbinden
-	Power supply, ground, 0 Vdc Alimentation, masse, 0 Vdc Alimentazione, terra, 0 Vcc	Voeding, aarding, 0 Vdc Versorgung, Masse, 0 Vdc	Black Noir Nero	Zwart Schwarz	Only systems with integrated indicator Seulement sur systèmes avec indicateur intégré Solo per sistemi con indicatore integrato	Alleen systemen met geïntegreerde indicator Nur bei Systemen mit intergriertem Indikator
+	Power supply, +12 Vdc Alimentation, +12 Vdc Alimentazione, +12 Vcc	Voeding, +12 Vdc Versorgung, +12 Vdc	Red Rouge Rosso	Rood Rot	Only systems with integrated indicator Seulement sur systèmes avec indicateur intégré Solo per sistemi con indicatore integrato	Alleen systemen met geïntegreerde indicator Nur bei Systemen mit intergriertem Indikator

Level switch: Wiring instructions / Aansluitgegevens / Instructions de connexion / Anschlusshinweise / Istruzioni per il collegamento



Specifications / Specificaties / Spécifications / Spezifikationen / Specifiche

➢ Switches off at an angle of 2 degrees ➢ Coupure à un angle de 2 degrés ➢ Si autodisinserisce con un angolo di 2 gradi	Schakelt uit bij een hoek van 2 graden Neigungsschalter 2°
➢ Accuracy/hysteresis in 0.5 degree ➢ Précision/hystérésis à 0,5 degrés ➢ Precisione/isteresi da 0,5 gradi	Nauwkeurigh/hysteresis bij 0.5 graden Toleranzbereich 0,5°
➢ Maximum switching value 12 Vdc at 0.5 Amp ➢ Coupure maximum de 12 Vdc à 0,5 Amp ➢ Valore massimo del contatto 12 Vcc a 0,5 Amp	Maximum schakelspanning 12 Vdc bij 0,5 Amp Maximale Schaltwerte 12 Vdc bei 0,5 Amp

Attention: / Attenzione:

➢ Be careful with the cable from the switch, once forced, the switch needs to be replaced. ➢ Attention à ne pas plier le câble du détecteur de niveau, une fois forcé, il doit être remplacé. ➢ Attenzione al cavo uscente dall'interruttore, una volta forzato, l'interruttore dovrà essere sostituito	Wees voorzichtig met de kabel van de schakelaar, een geforceerde schakelaar moet vervangen worden. Vorsichtiger Umgang mit dem Kabel des Schalters, Beschädigung macht Austausch erforderlich.
➢ Do not tighten the screws too tight. This will break the components inside. ➢ Ne pas serrer la vis trop fort. Cela casse les composants internes ➢ Non stringere troppo le viti per evitare di danneggiare i componenti situati all'interno	Draai de schroeven niet te strak aan. Dit zal de componenten aan de binnenkant beschadigen. Schrauben nur handfest anziehen. Innere Bauteile können zerstört werden.

Pin	Function Fonction Funzione	Funktie Funktion	Colour Couleur Colore	Kleur Farbe	Remarks Remarques Osservazioni	Opmerkingen Anmerkungen
	Level switch input Signal inclinomètre Alimentazione ingresso all'inclinometro	Scheefstandsdetector ingang Neigungschalter Eingang	Blue Bleu Blu	Blauw Blau		
	Ground Masse Terra	Aarding Masse	Brown Marron Marrone	Bruin Braun		

8. PARAMETER INSTRUCTIONS

SETUP MODE

ATTENTION: before entering the setup mode make sure that the battery supply is sufficient. A low battery may cause the micro-processor to block. If this happens remove the empty battery and replace it with a fully charged battery. You should be able to start the indicator in the normal way.

To enter the setup mode, turn on the indicator and keep the ① key pressed for 20 seconds. You will go through all the normal routines (all segments on, software version, calibration nr, and weight) and end up in "P__01" with the right digit flashing.

At this stage you may proceed as follows:

- To enter parameter 01 press the ↵ key shortly.
  - The display will show the setting for this parameter at this moment.
- You may change the setting by using the ∧ or the ∨ key.

Or

- You can accept the setting by pressing ↵.

Or

- To move to the next parameter you press the ∧ key.

Or

- To move to the previous parameter you press the ∨ key.

- To leave the set-up mode you do the following:
- With P__XX in the display press the ① key shortly.
  - The display will show "P__00"
- Press the ① key again shortly.
  - If a change was made to the settings the display will show "SET__" briefly and then return to the normal weighing mode. The calibration number will be increased every time a change was made in the set-up and also after a new calibration.
  - If no changes were made, the display will return directly into the normal weighing mode.

In the following pages the different parameters are explained and the standard settings are given.
Parameters which are not yet used will not be accessible or displayed with underscores.

PARAMETERS

Para-meter	Function	Settings	Default US
01	Start-up unit (and print units)	1 = kg / 2 = lb	2
02	Smallest graduation step for multirange	0.1/0.2/0.5……..10/20/50	0.5
03	Largest graduation step for multirange	0.1/0.2/0.5……..10/20/50	2
04	Number of graduations for every range	0000-9900 divisions	1000
05	Weighing capacity system (full scale)	00000-99999 units	5000
06	Motion tolerance for stable	0-32 off 0.5 grad./sec 1 grad./sec 2 grad./sec 4 grad./sec 8 grad./sec 16 grad./sec 32 grad./sec	1
07	Filter size	0-12 0=off 1= light filtering, 12=heavy filtering	8
08	Auto zero range	0=off 0.5 division 1 division 3 divisions	0.5
09	Zero range positive (+)	0-100 % (approved 2%) of span	10
10	Zero range negative (-)	0-100 % (approved 2%) of span	10
11	Test Function	BASIC ADC Counts 10x Resolution	bASiC
12-13	Not used		
14	Start-up number to add in sampling mode	1-2-5-10-20-50-95	10
15	Units switch mode active	Yes / No	Yes
16	Setpoint function	0-4 0=not used 1=overload gross (only 1 setpoint used) 2=overload net (only 1 setpoint used) 3=fill (2 setpoints used) no auto tare 4=fill (2 setpoints used) with auto tare	0
17	Application	Basic (standard) or Peakhold (Phold)	bASiC
18	Gravity value working area	9.750-9.850	9.797
19	Key function	Remote – Local - Both	Local
20	Baudrate comport 1	600-1200-2400-4800-9600-19200	9600
21	Databits comport 1	7-8	8
22	Parity comport 1	none/odd/even	none

Para-meter	Function	Settings	Default US
23	Stopbits comport 1	1-2	1
24	Not used		
25	Dataprotocol comport 1	0-4 0= PC bi-directional command structure 1= not used 2= Remote display continuously 3= Printer (without date/time/switched supply) 4= Not used	0
26	Number of linefeeds comport 1	0-9	0
27-29	Not used		
30	Baudrate comport 2	600-1200-2400-4800-9600-19200	9600
31	Databits comport 2	7-8	8
32	Parity comport 2	none/odd/even	none
33	Stopbits comport 2	1-2	1
34	Not used		
35	Dataprotocol comport 2	0-4 0= PC bi-directional command structure 1= Printer (without date/time/ no switched supply) 2= Remote display continuously 3= Printer (with date/time/switched supply) 4= not used	3
36	Number of linefeeds comport 2	0-9	5
37	Printout form	0-1 0=standard 1=total	0
38	Print format time/date	European format dd/mm/yy hh:mm American format mm/dd/yy hh:mm	USA
39	Not used		
40	Level switch	0 = not used 1 = N.C. 2 = N.O.	0
41	Delay trigger time level switch	0-10 sec.	3
42	Not used		
43-49	Not used		
50	Battery used	12VDC 6VDC	12v
51	Low Bat switch off time	0-99 minutes	2

Para-meter	Function	Settings	Default US
		0= not switched off	
52	Auto shut off time if not used	0-99 minutes 0= always on	15
53	Not used		
54	Peak hold time	0-7	4
55	Threshold value	9999 kg/lb	200
53-89	Not used		
90	Reset to default parameter settings without altering calibration parameters	If parameter 01 was on 1 it will default to the EU settings, if P01=2 the US settings will be defaulted. New delivered boards will have the EU settings.	
91	Reset to default parameter settings including calibration parameters	If parameter 01 was on 1 it will default to the EU settings, if P01=2 the US settings will be defaulted. New delivered boards will have the EU settings.	
92-99	Not used		