RAVAS ProLine Touch

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User Manual

RAVAS ProLine Touch

Weighing terminal for hand pallet truck

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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 of in the right manner.
More information can be found on our website www.ravasusa.com.

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Please Note:
While every precaution has been taken in the preparation of this manual, RAVAS Europe B.V. assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

User Manual

1. Introduction

1.1 The Weighing Hand Pallet Truck

1.1.1 Startup

Press  -key to switch the terminal on.

After approx. 3 to 5 minutes the electronics and the loadcells have reached their operating temperature. Before that deviations of up to 0.3% may occur.

Please set display to zero before weighing loads.

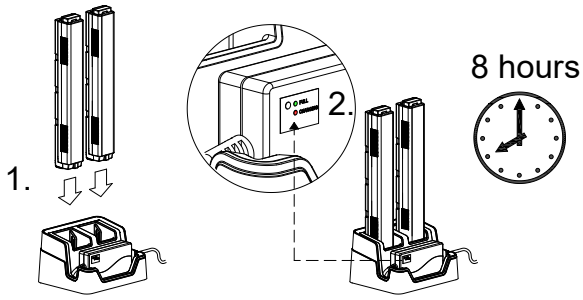
1.1.2 Operation

A fully charged battery provides power for approx. 10 hours of uninterrupted operation.

To avoid damages to the battery it should never be completely discharged. Deep discharge strongly reduces the life time of the battery. Charging at regular intervals ensures full operational availability.

Charger: When the battery packs are being charged, the red LED is on. After the charging time of 8 hours min. has elapsed, the charger is switched off and the batteries are fully charged. The LED signal turns from red to green.

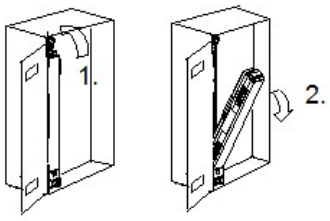
Important note: Both battery packs should always be charged at the same time!



Charger

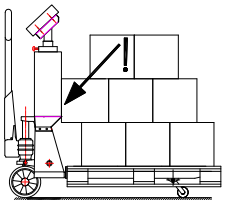
Attention: When the charger is connected to 230 VAC mains supply and no battery pack is plugged in, the green LED is on. The battery packs are protected against overcharging by the auto shut-off function of the charger.

The weighing hand pallet truck is equipped with a battery change module. After opening the door, the battery packs can be removed from the compartment and replaced with a new set. This provides for continued availability of the weighing system.

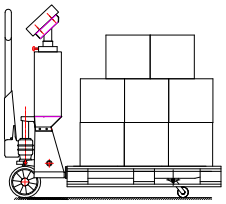


Removing the battery packs

The load must be lifted freely without touching the housing of the indicator or other objects.



Incorrect lifting of load

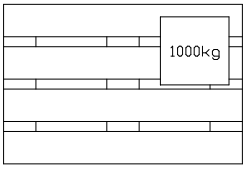


Correct lifting of load

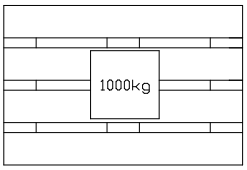
When operated on a non-even, sloped surface the accuracy of the scale is reduced by 0.1% for every 2° of inclination. This effect is also caused by holes in the floor. For best weighing results use scale on flat and even level surface.

The best weighing result is obtained when the center of gravity of the load lies between the forks. Excentric load may lead to bending and twisting of the forks, and can result in greater inaccuracy.

Units subject to Weights & Measures approval are equipped with an incline sensor that disables the display when the inclination exceeds the permissible limit.



Non-optimal positioning of load



Optimal positioning of load

Temperature range: Within the range from –10 to +40°C the max. weight deviation is 0.1% of the measured load. Outside this range deviations of up 0.3% may occur.

In order to prevent condensing of humidity in the electronics, rapid changes of temperature should be avoided. If substantial differences in ambient temperature are experienced, the scale should be switched off to give it time to acclimatize to the new environment.

1.1.3 Maintenance

The calibration of every scale must be checked at regular intervals. RAVAS recommends maintenance of the weighing system once a year. Scales subject to Weights & Measures approval must be verified with certified test weights every year by a certified organization.

The same rules that apply to a simple pallet truck also apply to the chassis of your mobile scale, i.e. based on experience, the scale will continue to operate even if the chassis is already damaged due to excessive overload.

In general:

- Pulling the pallet truck instead of pushing it makes moving the load easier because of the steering wheels on the side of the draw bar.
- When the lifting mechanism is not in use, the hand lever should be in middle position. This provides for a longer lifetime of the gaskets.

- Only clean the indicator with a soft clean cloth that has been dampened with a mild window type cleaner. Do not use any type of industrial solvent, do not spray cleaner directly on the unit, do not use water jets or the unit may be damaged.
- To prevent damages to the weighing system make sure that any welding work on the unit is solely carried out by RAVAS Service.
- The bearings of the wheels (except for Vulkollan) as well as the joints at the rollers should be cleaned and lubricated at regular intervals.
- Check oil level at 6-month intervals.

2 Weighing Terminal

This manual describes the basic functions and the operation of the RAVAS ProLine Touch weighing terminal with the operator interaction in the individual steps of the operating sequence. The terminal is intended for connection to 12 V DC power supply (–15%) to 30VDC (+10%).

The weighing terminal supports power saving functions for battery operation:

- On / off for printer;
- Power off for display backlighting after time;
- Power off for terminal when not in use after time;
- Power off on battery low after warning.

2.1 Documentation

Apart from this documentation, additional information is provided in the following manuals:

- Technical Manual **IT6000ET**,
- Calibration Manual **ADU.**

2.2 Safety Advice


Read this manual carefully before you operate this instrument! Keep this manual for future reference!


It must be installed, serviced, and operated in strict compliance with all locally applicable safety regulations and the rules for the prevention of accidents!


When this unit is included as a component part of a system, the resulting system design must be reviewed by qualified personnel who are familiar with the construction and operation of all individual components in the system and the potential hazards involved. Failure to observe this precaution could result in bodily injury!


All switch gear connected to the unit and/or installed close to it, such as relay and contactors, must be fitted with appropriate components (RC-modules, diodes) to suppress interference.


This module and its associated equipment must be installed, adjusted and maintained by qualified personnel only!


Only permit qualified personnel to operate this instrument!

Disconnect all power to this instrument before cleaning and servicing!

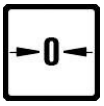
⚠ Exercise utmost care when making checks tests and adjustments that can actuate movable parts such as feeding devices, gates, flaps, conveyors, etc. Make absolutely sure that nobody is within reach of movable parts. Failure to observe this precaution could result in bodily injury!

3 Weight Display And Scale Function Keys

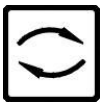
Please note that 'key' refers to the corresponding sensor field of the currently displayed template, in the same way 'pressing a key' is to be understood as touching the respective field of the touch panel.

Scale Function Keys

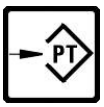
Call up Service Mode; to access the Service Mode, touch the field of the weight display (2 sec min.)



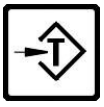
Set Zero Key to set the displayed scale to zero (only within zero setting range, selectable in calibration mode).



Display Select Key to switch the display between tare weight / gross weight / gross bargraph / data archive.



Tare Entry Key to enter preset tare in the tare line, the value is applied after confirmation with the Enter-key.



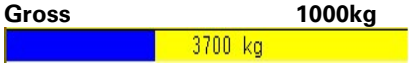
Tare Key for alternately taring of currently displayed weight or clearing the tare weight.

Electronic Marking Plate (only for single- and dual-range and two-interval scales)

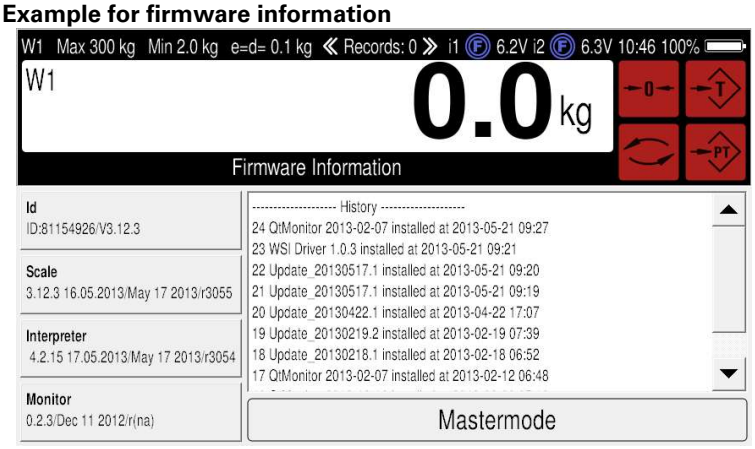
Scale-No.	W1	.
Max Load	e.g.: Max 3000kg	Maximum load (without additive tare), selectable in calibration mode.
Min Load	e.g.: Min 20kg	Permissible minimum load.

Division e / d	e.g.: e=d=1kg	Approved division e and display graduation d (in most cases e = d).

Weight Display		
Scale-No.	W1	
No. Of Weighing Range	W1.1 … W1.3	partial weighing range for multiple-range scales.
No-Motion Symbol		Settled weight (printing / storing enabled).
Gross Weight Or	e.g. 1250	Switching from gross weight to
Net Weight	e.g. 650 Net	net weight with Tare-key.
Net Weight Symbol	Net	Scale is tared.
Unit	e.g. kg	Weight unit, selectable in calibration mode.

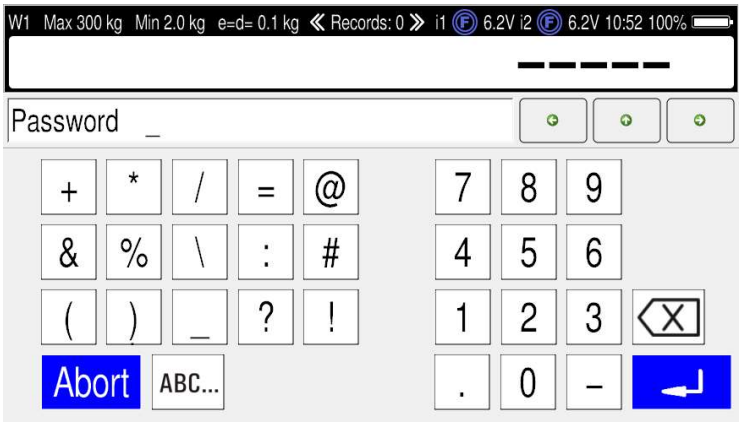
Auxiliary Display (switchable via Display Select Key)		
Tare	**12,9kgT**	Display of tare weight
Gross	**1000kg**	Display of gross weight
		Gross weight bargraph (zero to max load)
Approved weight storage		W&M approved data archive (see chapter 'Data Archive')
Firmware information		Show details of firmware version

Example for firmware information



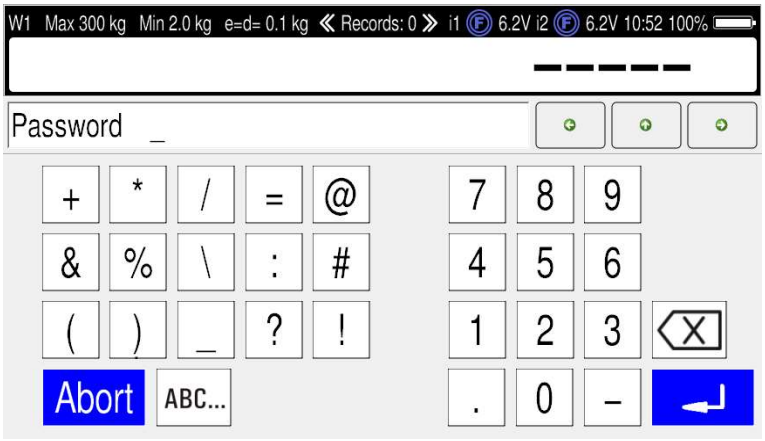
3.1 Numeric / Alphanumeric Keyboard (Example)

Numbers and special characters can be entered via the template of the numeric keyboard. With the key 'ABC...' the layout can be switched to the template for alphabetic inputs.



With the '123...' key the layout can be switched back to the template for numeric inputs.

With the '123...' key the layout can be switched back to the template for numeric inputs.



4 Operation Of Scale Functions

4.1 Preset Tare (PT)

After pressing the PT-key, the template for numeric inputs is opened and a tare value can be entered and confirmed with the Enter-key.

Display of net weight in the main display and of tare weight in the auxiliary display.

By pressing the Tare-key the tare is cleared and the main display returns to the indication of the gross weight.

4.2 Tare Balancing

By pressing the Tare-key, tare balancing (autotare) is executed. By pressing the Tare-key once more the display returns to gross weight.

5 Operation Via Display And Keyboard

5.1 Power On

Press  -key to switch the terminal on.
After switching the terminal on, automatically the power up messages are displayed, then the program proceeds to the template 'main menu'.

Power up messages and program version.

5.2 Main Menu

Weighing	Weighing mode
Counting	Counting mode
Load / Unload	Operating mode loading / unloading
Totalizing	Summing mode
Recipe Weighing	Recipe weighing mode
Gravity Determination	Operating mode determination of center of load. Note: Must be enabled in menu 'Gravity parameters'.
Data Input	Entry of data

Choose operating mode.

5.3 Special Functions For Mobile Weighing

The weighing terminal features a power save mode and remains in sleep mode when external power is on. To switch the terminal on press -key.

Power off on battery low

If the input voltage falls below 11.3 V a blinking 'Battery Low' signal is shown. If no key is pressed within the next 2 min after the signal started blinking, the terminal is switched off. With every key stroke timeout is reset to 2 min. The terminal can be switched on again by pressing -key, then the timeout period of 2 min is started anew.

The further power off functions (after time, on key stroke) must be enabled in the configuration and are active only if corresponding time intervals have been entered. These settings cannot be changed by the operator.

Backlighting off

If terminal is not in use, backlighting of the display can be switched off after selectable time has elapsed (time after last key stroke). The weighing terminal remains operational. Backlighting can be switched on again by pressing -key.

Backlighting can also be configured to be permanently switched off after power up and initialization messages.

Power off after time

In the configuration a time (in min) can be entered after which the terminal is switched off after the last key stroke. The terminal can be switched on again by pressing the -key.

Power off on key stroke

If this function is activated in the configuration, the terminal can be switched off and on again by pressing the -key.

Printer control

Via a parallel output the power supply for the printer is controlled as follows:

When the terminal is switched on, this output is set for approx. 10 sec (to replace the paper roll).

Furthermore, the output is set 1 sec before data are sent to the printer and it remains on after printing has been completed for approx. 9 more sec.

Incline sensor

If scales are equipped with an incline sensor (connected to a parallel input of the weighing terminal), this sensor opens the contact when the permissible inclination angle is exceeded. If this is the case for longer than 3 sec, the message 'Level Error' is shown in the upper line of the display (instead of the weight). In this state printing is disabled. When the scale returns to a position within the permitted inclination range, the error message is cleared and printing is released again.

The error message also appears on power up if the incline sensor is activated.

6 Operating Sequence

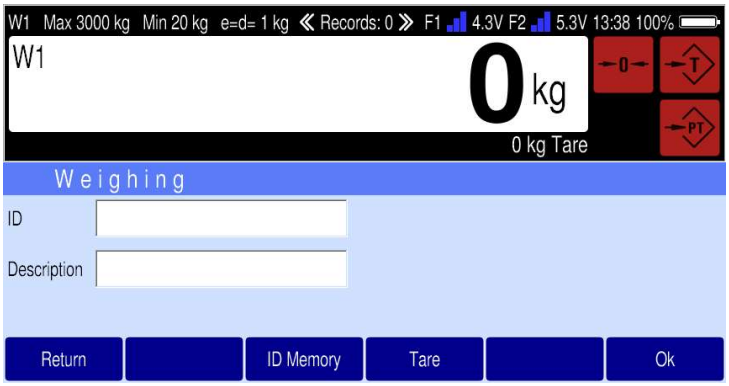
6.1 Operating Mode 'Weighing'

In the operating mode 'Weighing' the terminal works as a simple indicator with optional entry of IDs. Automatic and manual taring is supported as well as zero setting. On keystroke, capturing of weight is started and -if applicable- depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

Note:

Optionally the functions 'Weighing with tare database' and/or 'Weighing with ID database' can be enabled in the menu 'Data input/Settings/General'. In this case an ID or a tare weight can be called up via function key from the database.

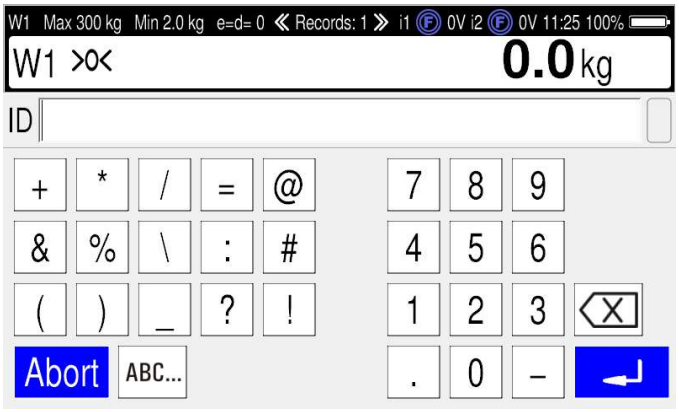
6.1.1 Weighing



Return	Return to main menu.
ID-Memory	Call up ID from ID database.
Tare	Call up tare weight from tare database.
Ok	Start of weighing.

The scale waits on the entry of an ID or on pressing the Ok key to start a weighing.

6.1.2 Weighing: Input Of ID

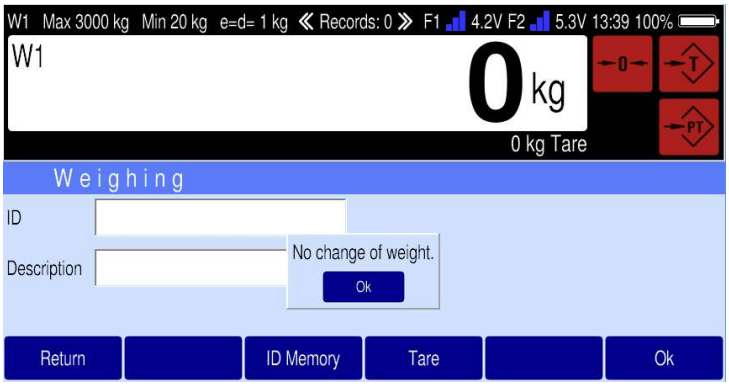


Entry step for ID.

Abort entry, changes are ignored.

Confirm entry.

6.1.3 Weighing: Load Scale



This message appears when the weight on the scale is below the min. load or if it is not different from the weight of the previous weighing.

Load scale.

6.2 Operating Mode 'Counting'

In the operating mode 'Counting' the weighing terminal works as a simple parts counting station with optional entry of IDs. On keystroke capturing of weight is started and -if applicable- depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

Note:

In the menu 'Data input/Settings/General' it is possible to enable a second scale (A&D at present only) as reference scale.

6.2.1 Parts Counting

To transmit data to the FTP Server, the network cable must be plugged in.

Back	Return to main menu.
kg>Pcs	Switching from kg to piece count.
Products	Select product from file.
Tare+	Calculate tare of pallet + number of containers.
Fix tare	Select tare weight from tare memory.
Pc. weight	Calculate average piece weight.
OK	Start of weighing.

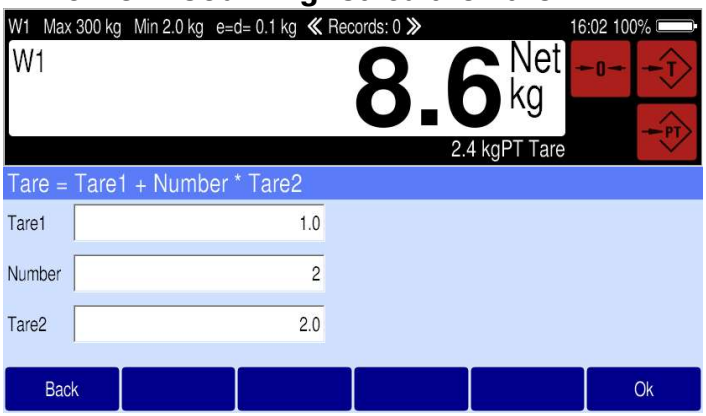
6.2.2 Counting: Select Product

Select product from file.

<	Show previous record in file.
>	Show next record in file.
Delete	Delete record from file.
New	Create new record in file.
Store	Store changes.
OK	Select displayed product.

Choose product and confirm.

6.2.3 Counting: Calculate Tare



Enter pallet tare, number of containers and container tare for calculation.

Back	Return to previous menu.
OK	Confirm entries.

6.2.4 Counting: Tare Memory

Select tare weight from tare memory.

<	Select previous record in tare memory.
>	Select next record in tare memory.
Delete	Delete record from tare memory.
New	Create new record in tare memory.
Save	Save changes.
OK	Select displayed tare weight.

Choose tare weight and confirm.

6.2.5 Counting: Calculation Of Average Piece Weight

Capturing of average piece weight by adding / removing parts.

Back	Return to previous menu.
Parts	Change the preset number of 10 parts.
OK	Confirm displayed number of pieces.

Load parts and confirm.

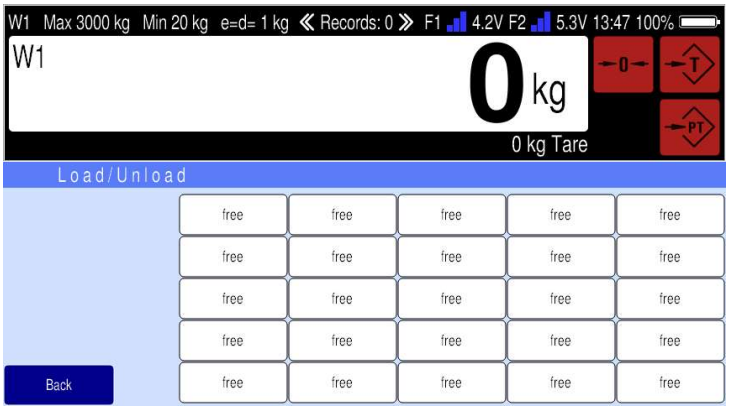
Note:

- If no reference scale is enabled under 'Data input/Settings/General', scale #1 is used to determine the piece weight.
- If a reference scale is enabled (A&D at present only), the piece weight is automatically determined on the reference scale.

6.3 Operating Mode 'Loading / Unloading'

In the operating mode 'Loading / unloading' the weighing terminal works as a data capture station with optional tare memory.

6.3.1 Loading / Unloading: Storage



Sequence for loading and unloading to a specified target value.

Back

Return to previous menu.

Press key.

6.3.2 Loading / Unloading: Assign New Key

Configure key assignment with designation of destination, max. weight and threshold.

Back

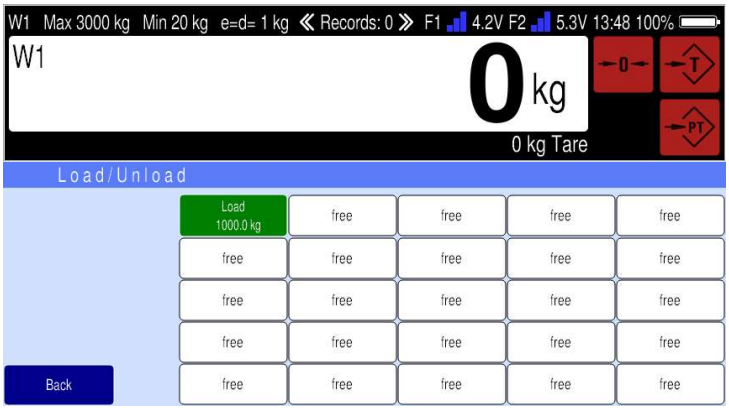
Return to previous menu.

Ok

Confirm entries.

Complete entries and confirm.

6.3.3 Loading / Unloading: Select Key

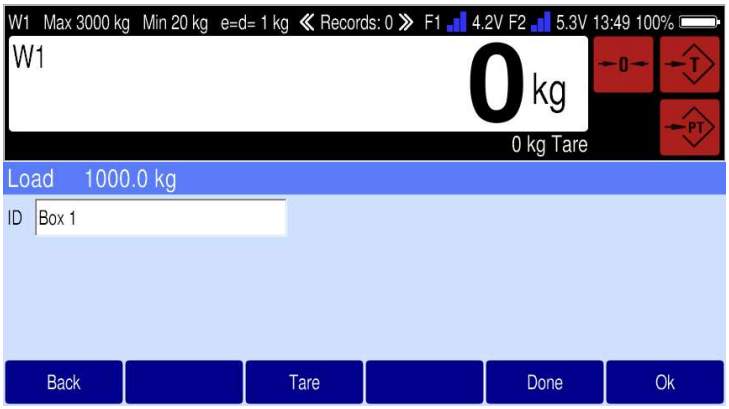


Select already chosen or new key.

Back Return to previous menu.

Select key.

6.3.4 Loading / Unloading: Weighing



Entry of ID and start of weighing or termination of weighing.

Back Return to previous menu.

Tare Select tare weight from tare memory.

Done Current summing sequence is terminated. If applicable, depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

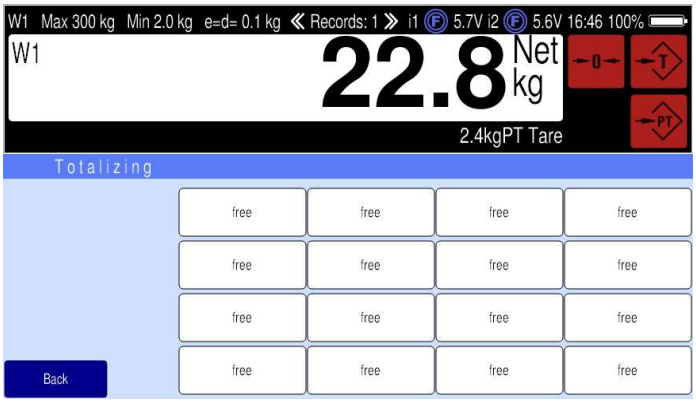
Ok Start weighing. If applicable, depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

Start weighing.

6.4 Operating Mode 'Summing'

In the operating mode 'Summing' the weighing terminal works as a totalizing scale with optional tare memory.

6.4.1 Totalizing Memory

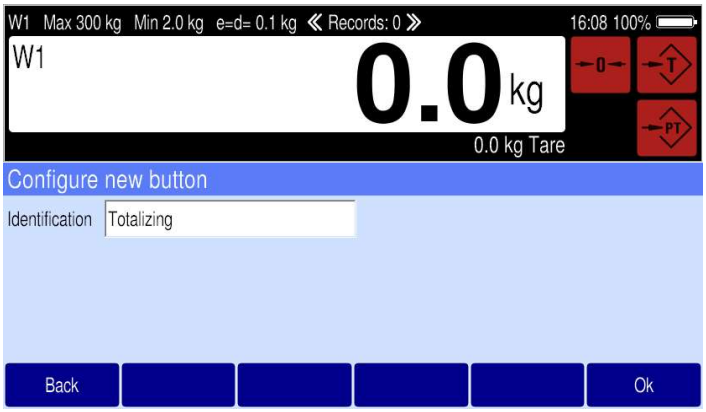


Operating sequence summing without preset target.

Back	Return to previous menu.

Select key.

6.4.2 Totalizing Memory: Assign New Key

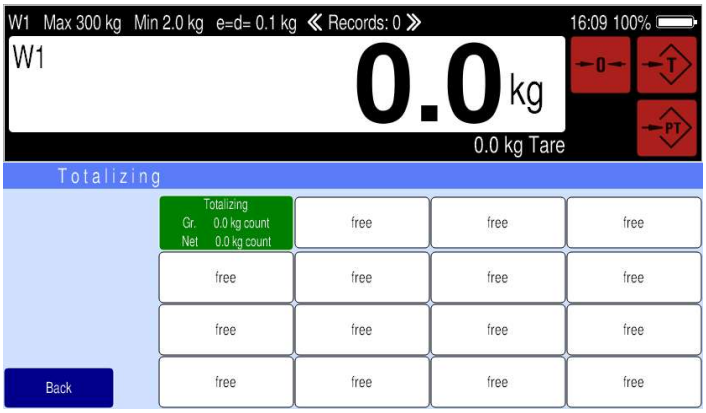


Configure key assignment with destination and threshold.

Back	Return to previous menu.
OK	Confirm entries.

Complete entries and confirm.

6.4.3 Totalizing Memory: Select Key

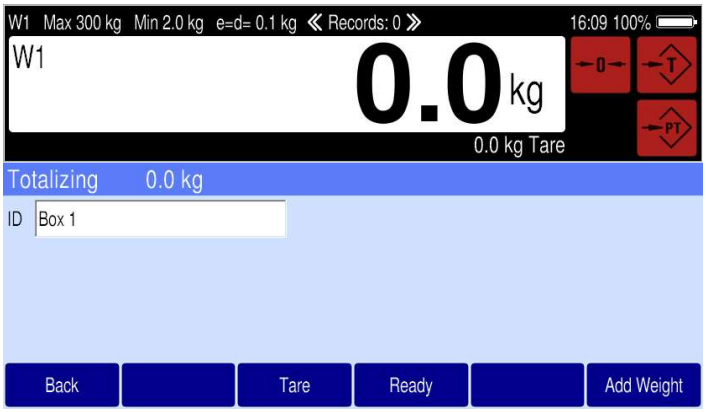


Select already chosen or new key.

Back — Return to previous menu.

Select key.

6.4.4 Totalizing Memory: Weighing



Entry of ID and start of weighing or termination of weighing.

Back — Return to previous menu.

Tare — Select tare weight from tare memory.

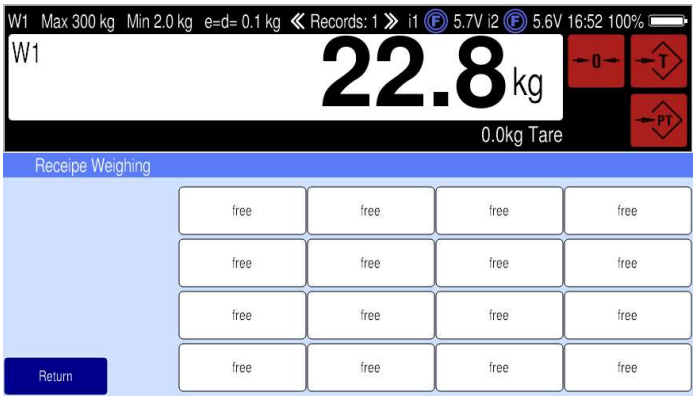
Done — Current summing sequence is terminated. If applicable, depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

Ok — Start weighing. If applicable, depending on the configuration in the menu 'Data input/Settings/General' a ticket is printed, a data string transmitted and a record stored in the internal memory.

Start weighing.

6.5 Operating Mode 'Recipe Weighing'

6.5.1 Recipe Weighing

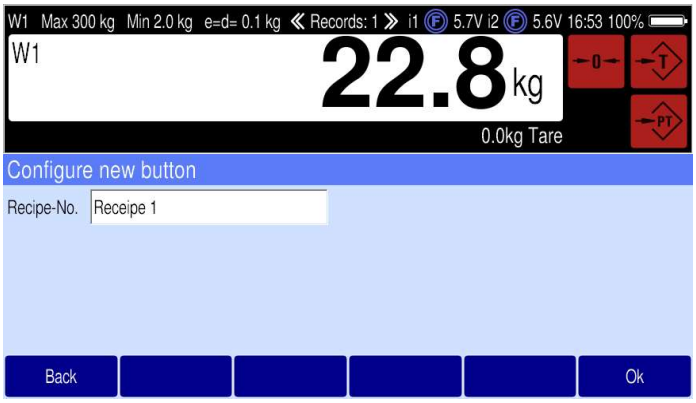


Operating sequence recipe weighing.

Back — Return to main menu.

? — Select key.

6.5.2 Recipe Weighing: Assign New Key



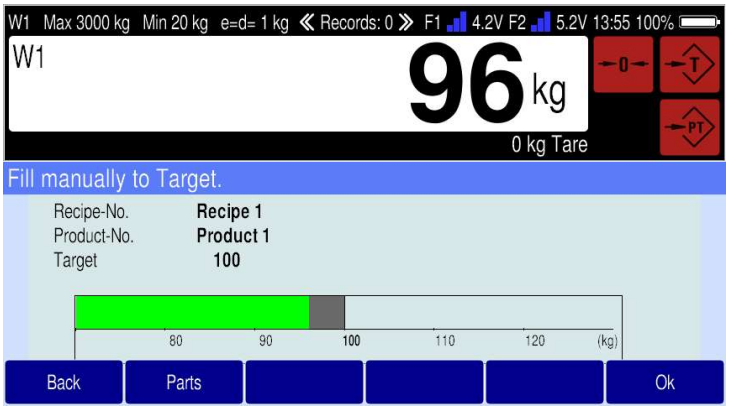
Entry of recipe name.

Back — Return to main menu.

OK — Confirm entries.

? — Enter recipe-No. and confirm.

6.5.3 Recipe Weighing: Filling A Component



Filling of a component.

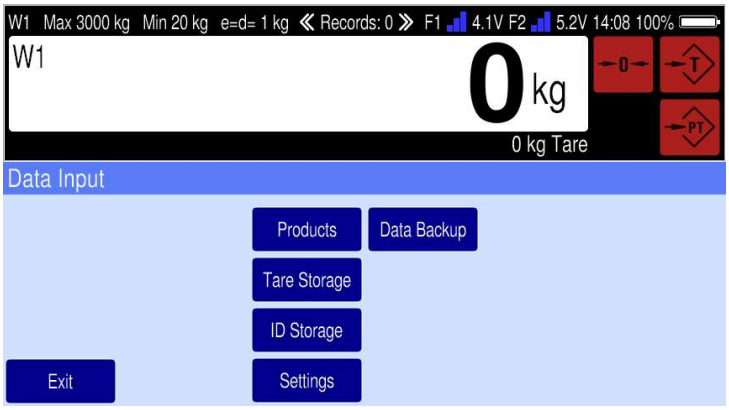
Back	Return to main menu.
Parts	Termination of the recipe in progress.
OK	Confirm entries.

Fill component and confirm.

6.6 Overview Data Entry

The data entry menu contains the configuration settings, database entries and the backup of data. If the unit is switched on for the first time, first the master file data should be entered.

6.6.1 Data Entry

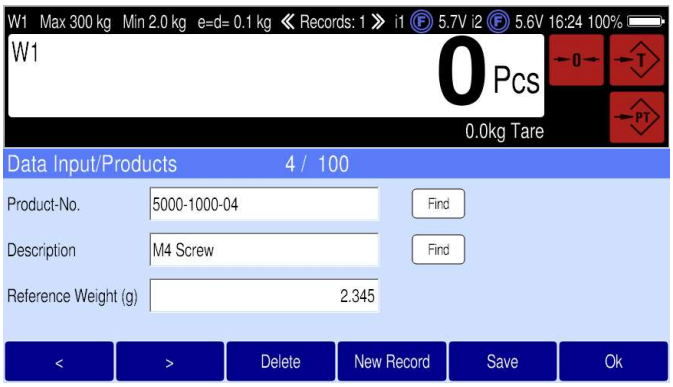


Exit	Return to main menu.
Products	Entry of product-No., name and reference weight (g).
Tare Storage	Entry of tare-No., name and tare weight.
ID Storage	Entry of ID-No. and name.
Settings	Entry of supervisor parameters.
Data Backup	Backup or restore data onto or from USB device.

Select menu.

6.6.2 Data Entry: Product File

Data for up to 99 products with their product names can be stored in the product file against a 2-digit product-No.



<	Show previous record in file.
>	Show next record in file.
Delete	Delete record from file.
New Record	Create new record in file.
Save	Store changes.
OK	Confirm entries.

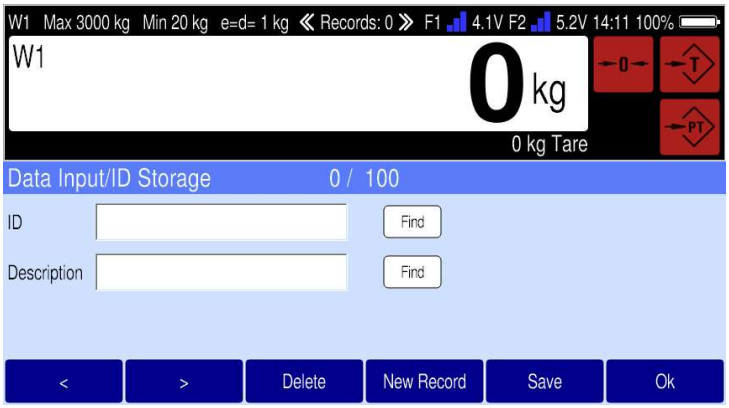
6.6.3 Data Entry: Tare Memory

Up to 50 tare weights with their pertaining designation can be stored in the tare file against a 2-digit tare-No.

<	Select previous record in tare memory.
>	Select next record in tare memory.
Delete	Delete record from tare memory.
New Record	Create new record in tare memory.
Save	Store changes.
OK	Confirm entries.

6.6.4 Data Entry: ID Memory

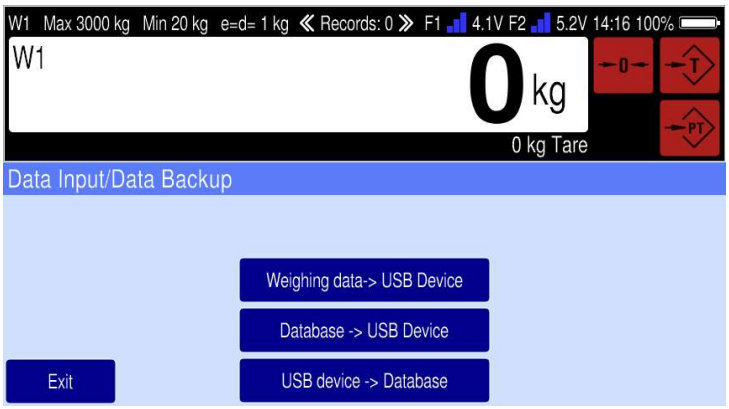
Up to 99 IDs can be stored in the ID file against a 2-digit ID-No.



<	Select previous entry in ID file.
>	Select next entry in ID file.
Delete	Delete entry from ID file.
New Record	Create new entry in ID file.
Save	Store changes.
Ok	Confirm entry.

6.6.5 Data Entry: Data Backup

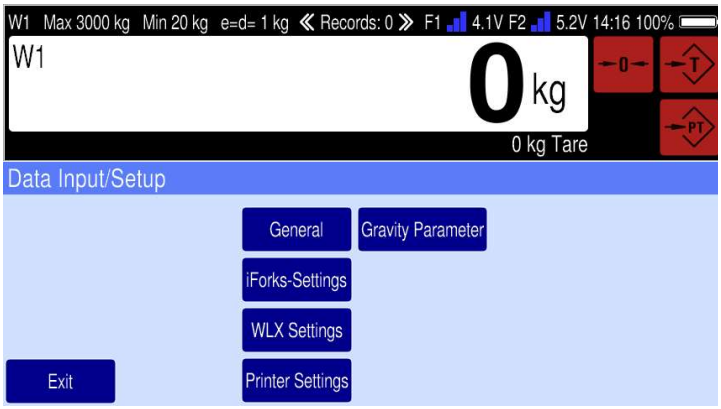
Weighing data and the contents of the database can be copied onto a USB device. In the other direction, the database can be restored.



Exit	Return to main menu.
Weighing data -> USB Device	Copy weighing data onto USB device.
Database -> USB Device	Copy databases onto USB device.
USB Device -> Database	Upload databases from USB device into weighing terminal.

6.7 Data Entry: Settings

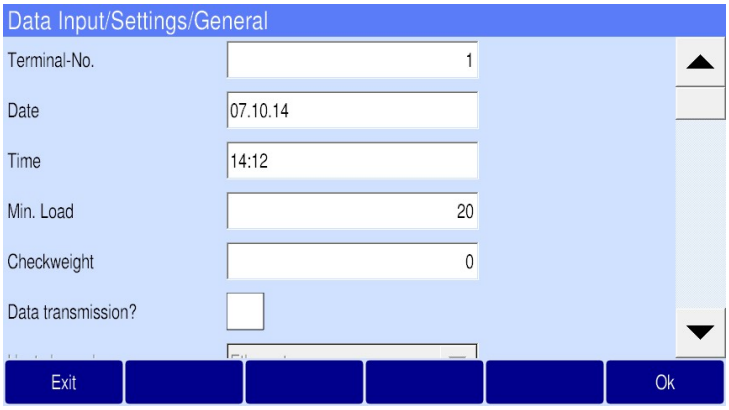
Only trained service personnel may make / change configuration settings.
Note: If no password is specified, password check is skipped. The password can be entered in the menu 'Data entries\Settings\General'.



Exit	Return to data entry menu.
General	Entry of general parameters.
iForks-Settings	Entry of iForks parameters (see iForks installation instructions).
WLX Settings	Entry of WLX Parameter (only when WLX module is used).
Printer Settings	Configuration of printer parameters.
Gravity Parameter	Entry of gravity parameters (only when WLI module is used).
Factory Defaults	Irrevocably reset all settings to factory defaults and clear all memory

Select menu.

6.7.1 Data Entry / Settings / General



Exit	Return to previous menu.
Ok	Confirm entries.

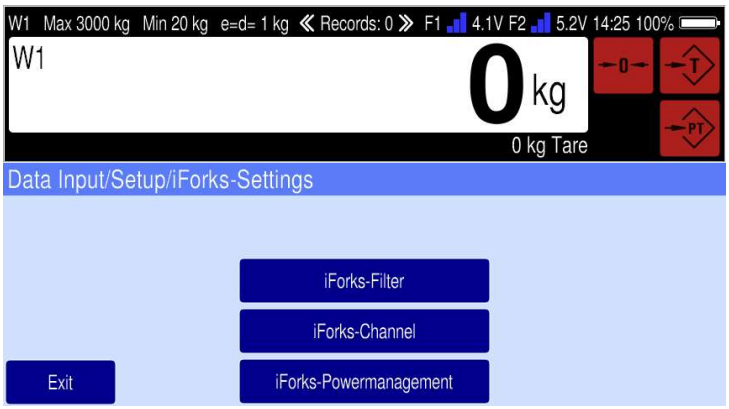
Terminal-No.	Entry of unequivocal terminal-No.
Date	Entry of date in format DD.MM.YY
Time	Entry of time in format HH.MM
Min.Load	Entry of min. load. A weighing is only released when this min. load is exceeded.
Checkweight	Entry of checkweight. A following weighing is only released when the current weight differs from that of the last weighing cycle by at least this amount.
Data transmission	Enable / disable data transmission.
Host Channel	Select host interface for communication.
Store on USB device	Enable / disable storing on USB device.
With ready acknowledge (Summing)	Ready acknowledge after the end of summing
Delete label? (Summing)	If summing is done clear label data
Weighing w. Tare database	Enable / disable tare weight database for operating mode 'Weighing'.
Weighing w. ID database	Enable / disable ID database for operating mode 'Weighing'.
Totalizing w. Tare database	Enable / disable 'Summing' for operating mode 'Weighing'.
Load/Unload w. Tare database	Enable / disable 'Loading / unloading' for operating mode 'Weighing'.
Reference Scale	Enable / disable A&D reference scale. **Note:** It is not possible to use both, the main scale (W1) and an A&D scale as reference scale at the same time.
Ref.Scale Channel	Select interface for reference scale.
Weighing ID1 - ID4	Prompts for the entry of IDs in the operating mode 'Weighing'.
Counting ID1 – ID4	Prompts for the entry of IDs in the operating mode 'Counting'.
Load/Unload ID1 – ID4	Prompts for the entry of IDs in the operating mode 'Summing'.
Max.No of lines in load/unload	Entry of the max. number of lines in the operating mode 'Load / unload'.
Max.No of columns in load/unload	Entry of the max. number of **columns** in the operating mode 'Load / unload'.

Totalizing ID1 – ID4	Prompts for the entry of IDs in the operating mode 'Summing'.
Max.No of lines in Totalizing	Entry of the max. number of lines in the operating mode 'Summing'.
Max.No of columns in Totalizing	Entry of the max. number of **columns** in the operating mode 'Summing'.
Recipe ID1 – ID4	Prompts for the entry of IDs in the operating mode 'Recipe weighing'.
Max.No of lines in Recipe Weighing	Entry of the max. number of lines in the operating mode 'Recipe weighing'.
Max.No of columns in Recipe Weighing	Entry of the max. number of **column** in the operating mode 'Recipe weighing'.
Autostart	Select operating mode that is to be started automatically after power up.
Password	Enter password for entries. If no password is specified, password check is disabled.

6.7.2 Data Entry / Settings / iForks Settings

For a detailed description of the iForks configuration refer to technical manual 'IFORKS_THE'.
Note:

- The iForks menu appears only when a WSI module is installed.



Exit	Return to configuration menu.
iForks-Filter	Filter settings for thr WSI module of the weighing terminal.
iForks-Channel	Settings for the connection of the WSI module.
iForks-Powermanagement	The function 'iForks-Powermanagement' contains the settings of the 'Stand By' and 'PowerDown' timers.

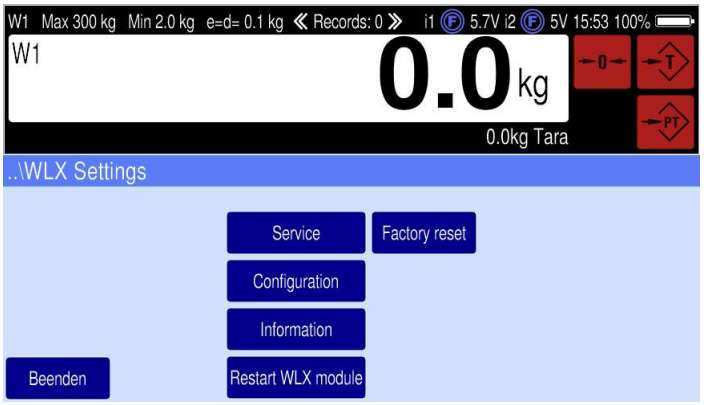
Select menu.

6.7.3 Data Entry / Settings / WLX Settings

For a detailed description of the individual WLX parameters refer to technical manual 'WLX IAE'.

Note:

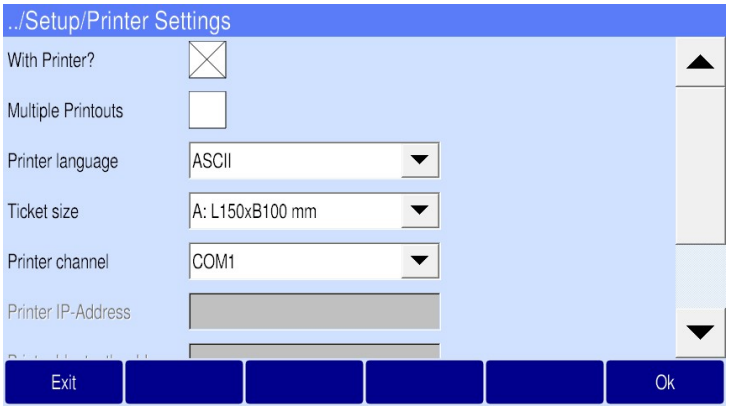
- The WLX menu appears only when an WLX module is installed.



Exit	Return to configuration menu.
Service	Network settings for the WLAN module of the weighing terminal.
Configuration	Setting of connections for the WLAN module.
Information	The function 'Information' provides details on status of connection, available networks, firmware version of module and version of configuration file.
Restart WLX Module	Use the function 'Restart WLX Module' to *restart* the module. **Note**: Settings remain unchanged and are not deleted.
Factory Reset	Use the function 'Factory Reset' to *reset* the module. **Note**: All settings are reset to factory defaults.

Select menu.

6.7.4 Data Entry / Settings / Printer Settings



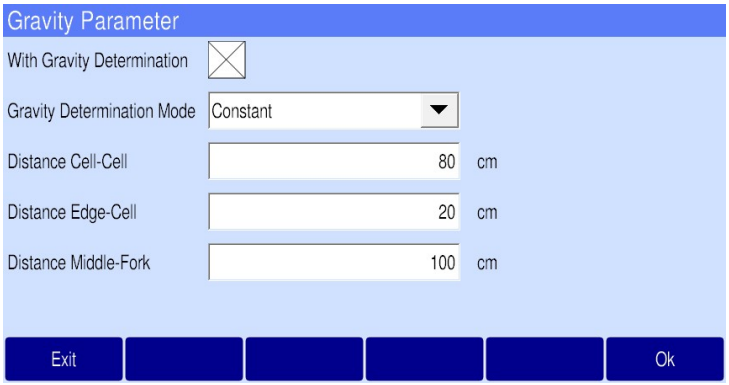
Exit	Return to previous menu.
Ok	Confirm choice.

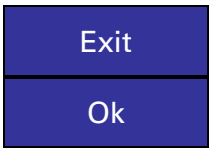
With Printer	Enable / disable printer.
Multiple Printouts	Enable / disable multiple printouts.
Printer language	Select printer language (only for operation mode 'Weighing'): ASCII (Standard Printer Code) ZPL (Zebra Programming Language) EPL (Eltron Programming Language)
Ticket size	Select ticket size.
Printer channel	Select printer interface.
Printer IP-Address	Entry of IP address when printer channel 'Ethernet' was chosen.
Printer wireless address	Enter wireless address of the printer when printer can work with Bluetooth® technology.
Line feed	Enable / disable line feed.
No of line feeds	Entry of number of lines when 'Line feed' was enabled.

Note: When printer language 'ZPL' or 'EPL' has been chosen, the configuration of a ticket must be loaded in the internal 'Shared' folder. Depending on the chosen size of the label and the printer language, the label must be named as follows:

- **WeighingTicket_EPL_A.lab** (L150 x W100 mm)
- **WeighingTicket_EPL_B.lab** (L70 x W100 mm)
- **WeighingTicket_ZPL_A.lab** (L150 x W100 mm)
- **WeighingTicket_ZPL_B.lab** (L70 x W100 mm)

6.7.5 Data Entry / Settings / Gravity Parameter





Return to previous menu.

Confirm choice.

With Gravity Determination	Enable / disable gravity determination. **Note**: After enabling the function and confirming the parameters, the application is automatically restarted.
Gravity Determination Mode	Select mode for determination of gravity: constant, variable or fork lift.
Distance Cell-Cell	Entry of distance (depth) between cell (front) and cell (rear).
Distance Edge-Cell	Entry of distance (depth) between load stop (rear) and cell (front).
Distance Middle-Fork	Entry of distance between middle of fork #1 and middle of fork #2.

Note:

- **Constant:** Parameters cannot be changed during determination of gravity.
- **Variabel:** Parameter 'Distance edge of package – Middle of fork 1' can be changed during determination of gravity.
- **Fork Lift:** Parameter 'Distance edge of package – Mitte Gabel 1' and 'Distance Middle-Fork' can be changed during determination of gravity.

7 Data Transmission And Saving To File

If data transmission is enabled in the menu 'Data Entry/Settings/General', after each weighing cycle data are transferred to the host system.

When the 'AckNak' protocol is used, receipt of data must be confirmed by the host system with ACK(06H) within 3 sec. In the case of an error, NAK(15H) can be returned to initiate a repetition of the transmission. Always the oldest record in the buffer is transmitted and deleted from the buffer after successful transmission.

The weighing data can also be saved in a file, to this effect the parameter 'Store on USB device' must be enabled in the menu 'Data Entry/Settings/General'.

Numeric fields are represented in ASCII format with variable position of decimal separator and leading space characters to fill non-significant places. In the configuration decimal point or comma can be selected as decimal separator.

The individual data fields are separated from each other by semicolons. The length of the data fields is variable, control characters -if applicable- are added.

Fields that are not used in the chosen operating mode remain empty in the data string. Depending on the chosen operating mode, the same data fields are used for different variables.

Note: Data transmission and saving to file use the same structure of the data string.

Field	Max. length	Format
Terminal-No.	2	numeric
Date	8	Format depending on configuration
Time	5	Format HH:MM
Alibi-No.	4	numeric (number of record in data archive)
Gross weight	10	numeric (in divisions of scale calibration)
Net weight	10	numeric (in divisions of scale calibration)
Tare weight	10	numeric (in divisions of scale calibration)
Unit	2	Unit sign (kg or t)
Pieces	8	numeric **Note**: Only for operating mode 'Counting'
Reference weight (g)	9	numeric and always in g **Note**: Only for operating mode 'Counting'
Destination	24	alphanumeric
Recipe-No.	24	alphanumeric **Note**: Only for operating mode 'Recipe'
Product-No.	24	alphanumeric **Note**: For operating mode 'Gravity determination' this field is used to transmit the package-No.
Target weight	7	numeric **Note**: Only for operating mode 'Recipe'
Net total	10	numeric **Note**: Updated after each weighing cvycle
Done	1	If the operator terminates the weighing cycle, the character '*' is transmitted in the field 'Done', otherwise it is left empty.
ID #1	24	alphanumeric
ID #2	24	alphanumeric **Note**: Contains the selected ID from the database
ID #3	24	alphanumeric
ID #4	24	alphanumeric
ID #5	24	alphanumeric

8 Printformats

8.1 Weighing

```
0       1       2       3       4       5       6       7       8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

```
Terminal-No.      1
Date          08.01.15
Time           14:42
Consec-No.         0
Gross          11.0 kg
Net            10.0 kg
Tare            1.0 kg
ID            1000
```

8.2 Counting

```
0       1       2       3       4       5       6       7       8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

```
Terminal-No.      1
Date          08.01.15
Time           14:47
Consec-No.         0
Ref.Weight          1 g
Scale-No.          1
Parts              6
Gross          7.4 kg
Net            6.4 kg
Tare           1.0 kg
Product-Nr.    5000-1000-04
           M4 Screws
```

8.3 Load / Unload

8.3.1 Subtotal

```
0       1       2       3       4       5       6       7       8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

```
Identification Load
Terminal-No.      1
Date           09.01.15
Time           08:28
Countername       1
Consec-No.        1
Gross          15.2 kg
Net            14.2 kg
Tare           1.0 kg
ID
Subtotal       14.2kg
```

8.3.2 Summe

```
0       1       2       3       4       5       6       7       8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

```
Identification Load
Terminal-No.      1
Date           09.01.15
Time           08:29
Countername       3
ID             1000
Total       42.6kg*
```

8.4 Summing mit Single- und Total weight

8.4.1 Single weighing

0 1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

```
10000
ID          123456
Countername       1
Consec-No.        1
Gross         19.8 kg
Tare           1.0 kg
Net           18.8 kg
Date        09.01.15
Time         08:32
```

8.4.2 Summing

0 1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

```
Summing:
Countername Tot.    3
Gross Total      90.4 kg
Tare Total        3.0 kg
Net Total        87.4 kg
Date        09.01.15
Time         08:32
```

9 Data Archive

A record -secured with checksum- is stored for every completed weighing transaction in the internal data archive, consisting of weight, date and consecutive Id-No. The Id-No. is reset to 0001 with every change of the date. As an alternative to the internal memory, also a USB stick may be used as data storage device. The stored data are read-only and cannot be deleted or changed.

Call up data archive with display switching key.

Previous / Next	Scroll records
Search date	Enter date of record that is to be looked up
Id-No.	Enter ident-No. of record that is to be logged up
Scale	Show scale-No.
Gross	Gross weight of record
Net	Net weight of record
Tare	Tare weight of record

If an error is detected in the checksum of the data archive, the stored data are void! Instead of a weight, a corresponding error message is shown.

10 Transport, Maintenance And Cleaning

10.1 Transport

Notes:

- Transport and storage of electronic components such as boards, EPROMS, etc. must only be made in suitable anti-static ESD bags or cases.
- Storage temperature –25 to +70°C at 95% max. relative humidity without condensation.

10.2 Maintenance

> **CAUTION**
> - **This unit and its associated equipment must be maintained by qualified personnel only, who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. Failure to observe these precautions could result in bodily injury!**
>
> **Disconnect all power to this unit before servicing!**

The weighing terminal is designed to require a minimum of maintenance and service, however, depending on the environmental conditions a visual inspection at regular intervals is recommended. The frequency at which normal maintenance (cleaning and inspection) should be performed, when installed in a clean office environment, should be twice a year. However, if the unit is subject to a dusty or dirty environment the frequency should be increased as required. At these inspections it should be made sure that all connected cables are undamaged and that all connectors are tightly fastened.

Maintenance of scale platforms is required at regular intervals depending on use and environment. The accuracy of scales can be affected by dirt, foreign objects, etc. and appropriate maintenance is strongly recommended. Also recommended is the calibration with certified test weights at regular intervals.

10.3 Cleaning

> **CAUTION**
> - **Disconnect all power to this unit before servicing!**

Clean the keyboard and covers with a soft clean cloth that has been dampened with a mild window type cleaner. Do **NOT** use any type of industrial solvent or the finish of the unit may be damaged. Do not spray cleaner directly on the unit.

11 Trouble Shooting

CAUTION
This unit does not contain any customer serviceable parts!

Only permit qualified personnel to service this equipment. Exercise care when making checks, tests, and adjustments!

If any problem arises that has not been explained above, please follow this check list:

- Batteries sufficiently charged, supply cable undamaged (visual inspection)?
- All cables connecting to scales and peripheral devices undamaged (visual inspection)?
- Connectors fitted correctly and tightly secured at peripheral devices (visual inspection)?

If operational difficulties are encountered that cannot be rectified by means of this manual, obtain as much information as possible regarding the particular trouble, as this may eliminate a lengthy, detailed checkout procedure.
If possible, try first to determine the conditions under which the problem occurs. Try to find out whether the appearance of the difficulties can be reproduced under the same conditions.

For the systematic analysis of an unknown problem the information as listed below is required:

- Serial-No. of the unit and its peripheral components
- Program version as displayed on power up
- Exact wording of any error message displayed
- Type and model of peripheral devices related to the problem (e.g. scale, printer, etc.)

To obtain professional assistance contact your service station stating the information listed above.

CAUTION
It is suggested that assistance from trained service personnel be requested in the event a problem should arise that is beyond the scope of this instruction manual.

8.1 Error Messages

If an error occurs during calibration or normal operation, error messages are displayed as follows:

Error Message	Possible Cause	Corrective Measure
Calibration Locked	Jumper for protection of calibration parameters in position 'protected'	Set calibration jumper to calibration position
Error Calibr. Jumper	Parameters cannot be saved, jumper in wrong position	Set jumper to correct position, repeat calibration
ADM not installed	No A/D converter installed	Check A/D converter
Not Available	No scale selected	Check parameters in Service Mode
ADM Defect **ADM Error**	No data received from A/D converter Short circuit in L/C cable	Replace A/D converter Check cabling
Resolution Error	Internal resolution too small, must be at least tenfold the displayed resolution	Select bigger increment size Use L/C with lower capacity
ADM Over **Out Of Range**	AA/D converter overrange: Wiring error loadcell Loadcell defective Scale heavily overloaded	 Check wiring Check loadcell Unload scale

Error Message	Possible Cause	Corrective Measure
W1 -------- Overload	- Scale in overload - CPU does not receive data from weighing interface	- Unload scale - Check internal and external wiring and cabling
Powerup Out of Range	- Error power up zero. This message appears on power up if the weight on the scale exceeds the power up zero range (+2%,+10%) or is below the power up zero range as set in the calibration (–2%, –10%) as set in the calibration.	- Unload scale or apply dead load
Powerup Motion	- This message appears on power up if the terminal cannot detect a settled weight within the specified power up zero range (±2%, ±10%).	- Settle scale
Error Transmission	- Host switched off or off-line, data cable not connected or damaged	- Switch on host and start communication program - Check cable and connectors - If problem cannot be rectified, disable data transmission in Supervisor Mode