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Operating manual
Price calculating balance

KERN RFE

Version 1.1
2018-01
GB

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RFE-BA-e-1811

GB

KERN RFE

Version 1.1 2018-01

Operating manual

Price calculating balance

English

Contents

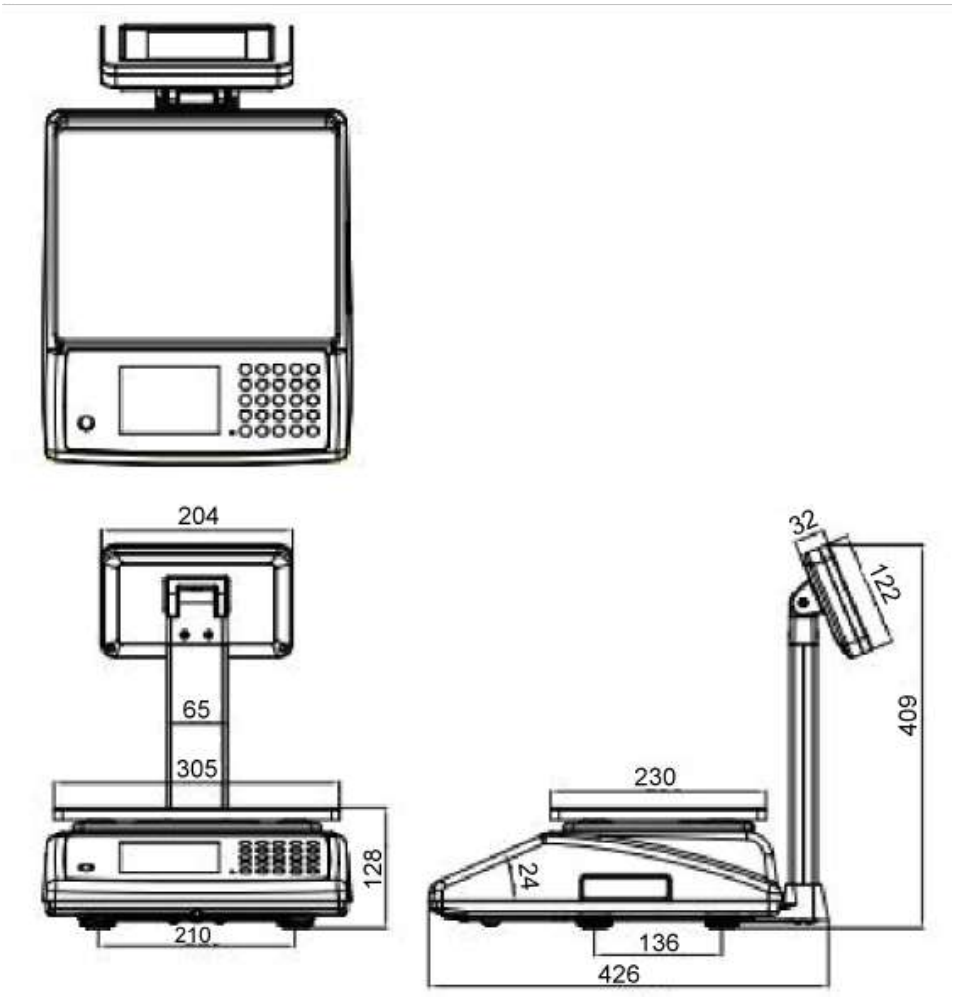
English

1 Technical data

KERN	RFE 6K3M	RFE 15K3M	RFE 30K3M
Weighing range (max)	3 kg / 6 kg	6 kg / 15 kg	15 kg / 30 kg
Readability (d)	1 g / 2 g	2 g / 5 g	5 g / 10 g
Minimum load (Min)	20 g	40 g	100 g
Verification value (e)	1 g / 2g	2 g / 5g	5 g / 10 g
Verification class	III	III	III
Reproducibility	1 g / 2 g	2 g / 5 g	5 g / 10 g
Linearity	± 3 g / ± 6 g	± 6 g /± 15 g	± 15 g / ± 30 g
Recommended adjusting weight (not supplied)	6 kg (M1)	15 kg (M1)	30 kg (M1)
Stabilization time	2 s		
Heating time (operating temperature)	10 min		
Net weight (kg)	4.1		
Basic price, can be switched over	€/kg; €/100 g		
Admissible ambient temperature	-10° C to 40° C		
Weighing surface (mm)	230 x 300		
Tripod height (mm)	395		
Auto-Off (battery; min.)	3, 5, 15, 30		
Allowable air humidity	0 % - 80 % (non-condensing)		
Electric Supply	Mains adapter 220 V – 240 V AC 50 Hz balance 12 V, 500 mA		
Rechargeable battery (optional)	6 V, 4 Ah		
	Operating period - background illumination OFF: 60 h		

English

1.1 Dimensions



2 Declaration of conformity

The current EC/EU Conformity declaration can be found online in:

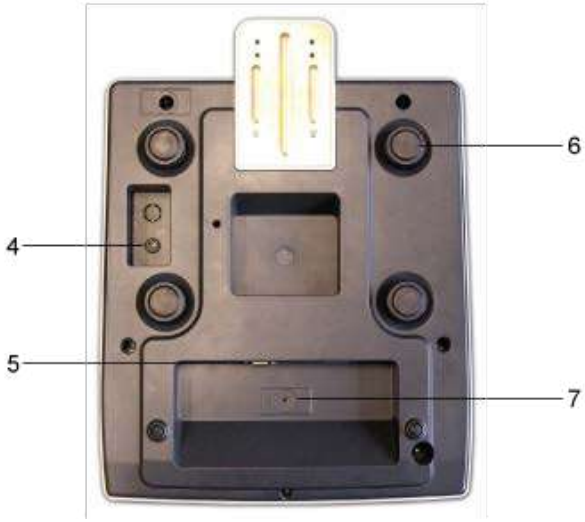
www.kern-sohn.com/ce

For verified weighing scales (= weighing scales assessed for conformity) a declaration of conformity is included in the scope of delivery.

3 Appliance overview

Models without post-mounted display:

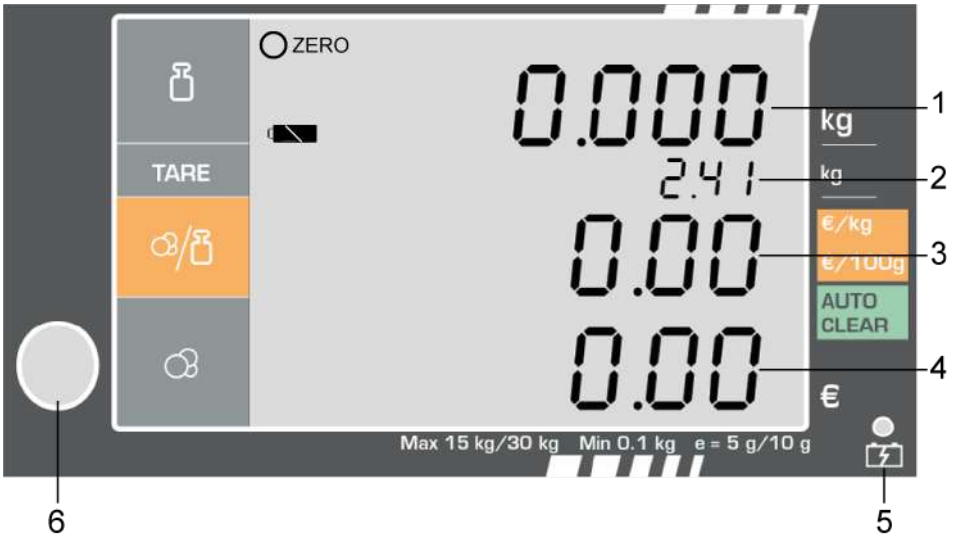
Models with post-mounted display:



1. Bubble level
2. Weighing pan
3. Post-mounted display
4. Mains adapter connection
5. RS 232 interface
6. Footscrews
7. Adjustment switch

English

3.1 Overview of display



1	Weight
2	Taring value
3	Basic price
4	Sales price
5	Storage battery status display
6	Bubble level

○	Stability display
ZERO	Zeroing display
	Battery symbol
€/kg	Basic price in €/kg
€/100 g	Basic price in €/100 g
AUTO CLEAR	Set basic price is deleted automatically when balance is unloaded

English

3.2 Keyboard overview

English

Selection	Function
0 - ( ) ~ 9 WXYZ	• Numerical keys, PLU-keys
CE	• Delete
1 ~ 4	• Direct PLU keys
PLU	• PLU key
4 GHI or 6 MNO	• Numeric keys 4 and 6 • Scroll up (4) or down (6) in the menu
AUTO CLEAR	• For activated function, the set basic price is automatically deleted when the balance is unloaded.
	• Display background illumination
	• Switch-over unit € / kg ⇆ € / 100g
ON OFF	• Turn on/off balance
BAR	• Calculating the change

	• Issue to external device
	• Taring • In menu: Confirm
	• Zeroing • In menu: Exit menu
	• Numeric key 0

4 Basic Information (General)

4.1 Proper use

The balance you purchased is intended to determine the weighing value of material to be weighed. It is intended to be used as a “non-automatic balance”, i.e. the material to be weighed is manually and carefully placed in the centre of the weighing pan. As soon as a stable weighing value is reached the weighing value can be read.

4.2 Improper Use

Do not use balance for dynamic weighing. In the event that small quantities are removed or added to the material to be weighed, incorrect weighing results can be displayed due to the “stability compensation“. (Example: Slowly draining fluids from a container on the balance.)
Do not leave permanent load on the weighing pan. This may damage the measuring system.
Impacts and overloading exceeding the stated maximum load (max) of the balance, minus a possibly existing tare load, must be strictly avoided. Balance may be damaged by this.
Never operate balance in explosive environment. The serial version is not explosion protected.
The structure of the balance may not be modified. This may lead to incorrect weighing results, safety-related faults and destruction of the balance.
The balance may only be used according to the described conditions. Other areas of use must be released by KERN in writing.

4.3 Warranty

Warranty claims shall be voided in case

- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage or damage by media, liquids, natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

4.4 Monitoring of Test Resources

In the framework of quality assurance the measuring-related properties of the balance and, if applicable, the testing weight, must be checked regularly. The responsible user must define a suitable interval as well as type and scope of this test. Information is available on KERN’s home page (www.kern-sohn.com with regard to the monitoring of balance test substances and the test weights required for this. In KERN's accredited DKD calibration laboratory test weights and balances may be calibrated (return to the national standard) fast and at moderate cost.

5 Basic Safety Precautions

5.1 Pay attention to the instructions in the Operation Manual

Carefully read this operation manual before setup and commissioning, even if you are already familiar with KERN balances.

5.2 Personnel training

The appliance may only be operated and maintained by trained personnel.

6 Transport and storage

6.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.

6.2 Packaging / return transport

- ⇨ Keep all parts of the original packaging for a possibly required return.
- ⇨ Only use original packaging for returning.
- ⇨ Prior to dispatch disconnect all cables and remove loose/mobile parts.
- ⇨ Reattach possibly supplied transport securing devices.
- ⇨ Secure all parts such as the glass wind screen, the weighing platform, power unit etc. against shifting and damage.

English

7 Unpacking, Setup and Commissioning

7.1 Installation Site, Location of Use

The balances are designed in a way that reliable weighing results are achieved in common conditions of use.
You will work accurately and fast, if you select the right location for your balance.
On the installation site observe the following:

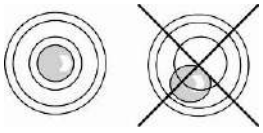
- Place the balance on a firm, level surface;
- Avoid extreme heat as well as temperature fluctuation caused by installing next to a radiator or in the direct sunlight;
- Protect the balance against direct draughts due to open windows and doors;
- Avoid jarring during weighing;
- Protect the balance against high humidity, vapours and dust;
- Do not expose the device to extreme dampness for longer periods of time. Non-permitted condensation (condensation of air humidity on the appliance) may occur if a cold appliance is taken to a considerably warmer environment. In this case, acclimatize the disconnected appliance for ca. 2 hours at room temperature.
- Avoid static charge of goods to be weighed or weighing container.

If electro-magnetic fields or static charge occur, or if the power supply is unstable major deviations on the display (incorrect weighing results) are possible. In that case, the location must be changed.

7.2 Unpacking

Carefully remove the balance from the packaging, remove plastic cover and setup balance at the intended workstation.

7.2.1 Placing



Level balance with foot screws until the air bubble of the water balance is in the prescribed circle.

7.2.2 Scope of delivery / serial accessories:

- Balance
- Mains adapter
- Operating manual
- Tripod with screws

7.3 Mains connection

Power is supplied via the external mains adapter. The stated voltage value must be the same as the local voltage.
Only use KERN original mains adapter. Using other makes requires consent by KERN.

7.4 Rechargeable battery operation

The rechargeable battery is charged via the delivered power supply.
Before the first use, the battery should be charged by connecting it to the mains power supply for at least 12 hours. Two symbols show the capacity of the rechargeable battery:

- In the display the symbol 
- The LED display above the loading battery status display 

	 *	Description
red:		Battery is almost discharged
green:		Rechargeable battery completely reloaded
yellow:		Charging storage battery

* Loading battery status of the rechargeable battery with this symbol is only correctly displayed, when the balance is supplied with energy not via the mains adapter.

7.5 Initial Commissioning

In order to obtain exact results with the electronic balances, your balance must have reached the operating temperature (see warming up time chap. During this warming up time the balance must be connected to the power supply (mains, accumulator or battery).

The accuracy of the balance depends on the local acceleration of gravity.
Strictly observe hints in chapter Adjustment.

7.6 Tripod

Delivery volume includes a tripod for setting the display unit higher.

Assembly:

	Lead the cable of the display unit through the tripod.
	Screw down the tripod at the display unit
	Plug the tripod in the tripod foot at the platform
	Screw the tripod at the lower side of the platform

7.7 Adjustment

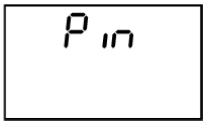
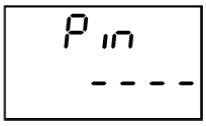
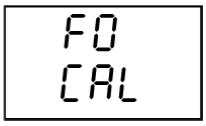
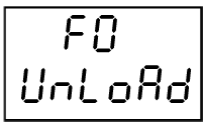
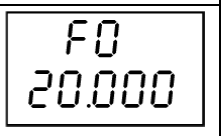
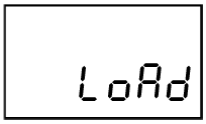
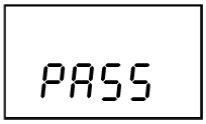
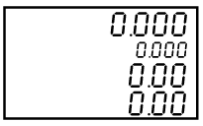
As the acceleration value due to gravity is not the same at every location on earth, each balance must be coordinated - in compliance with the underlying physical weighing principle - to the existing acceleration due to gravity at its place of location (only if the balance has not already been adjusted to the location in the factory). This adjustment process must be carried out for the first commissioning, after each change of location as well as in case of fluctuating environment temperature. To receive accurate measuring values it is also recommended to adjust the balance periodically in weighing operation.

The adjustment is locked for verified balances. Carrying out adjustment requires that the seal is destroyed and the adjusting switch is confirmed in step 3 when turning on the scale. Position of adjustment switch, see chap. 7.8.1

Attention:
After destruction of the seal the balance must be re-verified by an authorised agency and a new verification wire/seal mark fitted before it can be reused for applications subject to verification.

English

Procedure when adjusting:
Observe stable environmental conditions. A warming up time (see chapter 1) is required for stabilization. Ensure that there are no objects on the weighing pan. Arrange adjustment weight, details see chap.1 „Techn. data“

• Start balance by pressing [ON/OFF]. During the selftest press [TARE]. The password query "P in" is displayed.	
• Using numeric keyboard, enter the standard password "9999". "P in ----" is displayed.	
• Confirm by [TARE], the menu is called up, the first menu point "F0 CAL" is displayed.	
• **Press adjustment switch on the lower side of the balance**	
• Press [TARE], "F0 UnLoad" will be displayed. Ensure that there are no weighing goods on the weighing pan. Wait for stability display.	
• Press [TARE] anew. The value of the adjustment weight appears.	 (example)
• Either place the displayed adjustment weight, or use the numeric keys to enter a new adjustment weight.	
• Acknowledge with [TARE]. „Load“ is displayed.	
• Place adjustment weight, wait for stability display and press [TARE]. “PASS“ will be displayed.	
• Adjustment now has finished. Remove adjustment weight from weighing plate. The balance changes automatically into weighing mode. The zero display appears.	

English

7.8 Verification

General hints:

According to EU directive 2014/31/EU balances must be officially verified if they are used as follows (legally controlled area):

a) For commercial transactions if the price of goods is determined by weighing.
b) For the production of medicines in pharmacies as well as for analyses in the medical and pharmaceutical laboratory.
c) For official purpose.
d) For manufacturing final packages.

In cases of doubt, please contact your local trade in standard.

After verification the balance is sealed at the indicated positions.

Verification of the balance is invalid without the "seal".

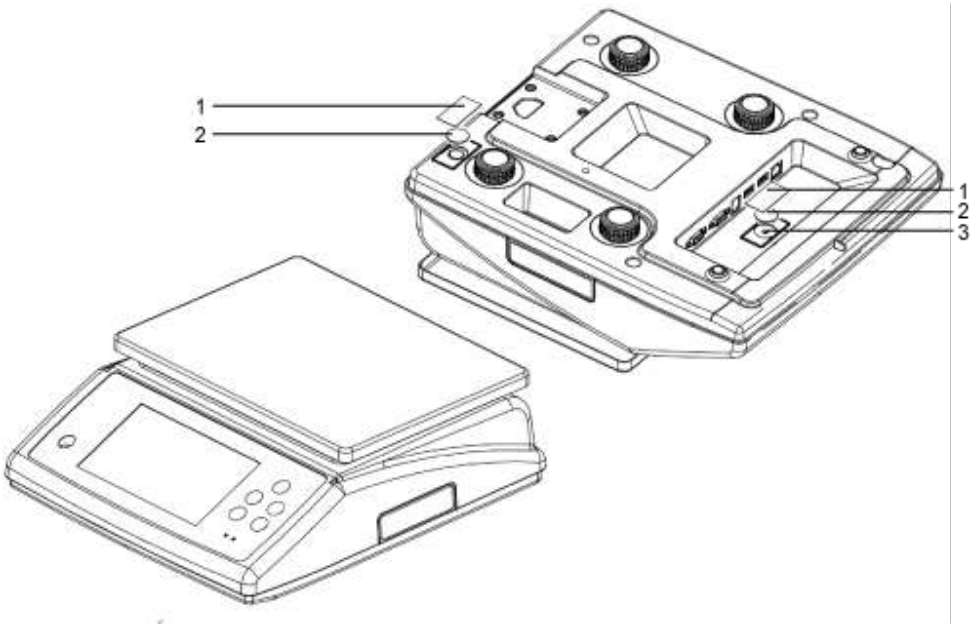
Verification notes

An EU type approval exists for balances described in their technical data as verifiable. If a balance is used where obligation to verify exists as described above, it must be verified and re-verified at regular intervals.
Re-verification of a balance is carried out according to the respective national regulations. The validity for verification of balances in Germany is e.g. 2 years.
The legal regulation of the country where the balance is used must be observed!

Balances with obligation to verify must be taken out of operation if:

- The **weighing result** of the balance is outside the **error limit.** Therefore, in regular intervals load balance with known test weight (ca. 1/3 of the max. load) and compare with displayed value.
- The **reverification deadline** has been exceeded.

7.8.1 Adjustment switch and seals



1. Seal mark
2. Cover
3. Verification switch

7.9 Checking the balance verification settings

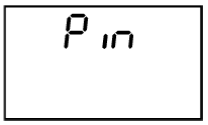
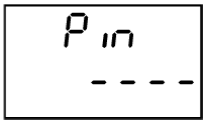
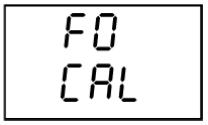
For the adjustment, the balance must be switched over to service mode.

In calibrated scales the service mode is locked individually for each switch. To disable the access lock, destroy the seal and actuate the switch.

Attention:
After destruction of the seal the balance must be re-verified by an authorised agency and a new verification wire/seal mark fitted before it can be reused for applications subject to verification.

8 The menu

8.1 Access to menu:

• Start balance by pressing ON/OFF. During the selftest press TARE. The password query "P in" is displayed.	
• Using numeric keyboard, enter the standard password "9999". "P in ----" is displayed.	
• Confirm by TARE, the menu is called up, the first menu point "F0 CAL" is displayed.	
• **Press adjustment switch on the lower side of the balance**	

Select function:

Use the numeric keys 4 GHI 6 MNO, scroll up or down in the menu.

Confirm selected function by pressing TARE. Select desired setting with 4 GHI 6 MNO and acknowledge by TARE.

Exit menu:

Press the →0← button as often as necessary until the zero display appears. The balance is now again in weighing mode.

English

8.2 Menu overview

Function		Settings	Description
4 GHI or 6 MNO and TARE		4 GHI or 6 MNO and TARE	
F0	**CAL**		Adjustment function
F1	**rES**	Press adjustment switch	Resolution
		dUAL rAnGE	
		30000	
		60000	
		3000	
		6000	
		dUAL intEru	
F2	**CAP**		Weighing range (max)
		30KG	
		3KG	
		6KG	
		15KG	
F3	**oFFtmE**		Auto Off function
		15	
		30	
		oFF	
		3	
		5	
F4	**CLoCK**		Time/Date
		dAtE	
		timE	
		StYLE	

English

F5	P Com				RS 232 interface	
		Com 1	CHAnEL	rJ45		
				rS232	oFF	Interface out of function
					PSEnd	Kont. Data Transfer
			bAUd	1200		
				2400		
				4800		
				9600		
				19200		
				38400		
				115200		
			vEriFY	7E1		
				701		
				8n1		
		Com 2	CHAnEL	Print		
				USb		
		Com 3	bLUE	Com 1		
				Com 2		
				Com 3		
				Com 4		
			PtYPE	oFF		
				PSEnd		
			bAUd	9600		
				19200		
				38400		
				115200		
				1200		
				2400		
				4800		
		Com 4	WiFi	oFF		
				on		
			PtYPE	PSEnd		
				oFF		
			bAUd	9600		
				19200		
				38400		
				115200		
				1200		
				2400		
				4800		

English

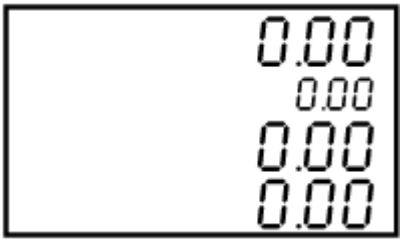
F6	**Print**			Printer setting
		FormAt	oFF	
			Prt 1	
			Prt 2	
		HEAdE 1		Head line 1
		HEAdE 2		Head line 2
		HEAdE 3		Head line 3
		FootE 1		Foot line 1
		FootE 2		Foot line 2
		FootE 3		Foot line 3
F7	**AZn**			Auto-Zero
		on		
		off		
F8	**ACC**			not documented
		on		
		off		
F9	**PdECi**			Decimal dot in price
		0.00		
		0.000		
		0		
		0.0		
F10	**PrCmod**			
		Fix		
		FLoAt		
F11	**CHAnGE**	Press adjustment switch		Calculation of credit
		on		
		off		
F12	**rEtArE**			Pre-Tare
		on		
		off		
F13	**SPEEd**			A/D-converter
		FAst		
		SLoW		
		Mid		
F14	**GrA**			Gravity
F15	**t-Curr**			Symbol for currency
		EUr		Euro
		CnY		Chinesische Yen
		USd		USd

English

9 Operation

9.1 Turn on/off

⇨ To switch on, press ON/OFF. The balance will carry out a self-test. As soon as the weight display shows "0" in all the three numeric values, your balance is ready to weigh.



⇨ To switch off press ON/OFF anew.

9.2 Zeroing

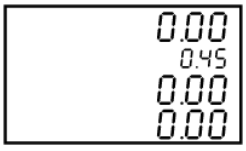
Resetting to zero corrects the influence of light soiling on the weighing plate.

⇨ Unload the balance

⇨ Press →0←, the balance starts resetting to zero.
The indicator ZERO appears.

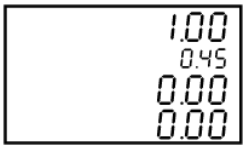
9.3 Weighing with tare

⇨ Deposit weighing vessel. After successful standstill control press the TARE button. The weight value goes to 0, in the field for the taring weight appears the weight value of the weighing container.



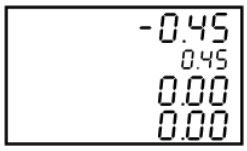
(example)

⇨ Weigh the material, the net weight will be indicated.



English

⇨ After removing the weighing container, the weight of the weighing container appears in the field of the weight display as negative value.



⇨ To delete the tare value, remove load from weighing plate and press TARE.
In all fields now will again be displayed 0.

9.4 Overload warning

Overloading exceeding the stated maximum load (max) of the balance, minus a possibly existing tare load, must be strictly avoided. This could cause damage to the balance.
Exceeding maximum load is indicated by the display of "**-oL-**", and an audio sound. Unload balance or reduce preload.

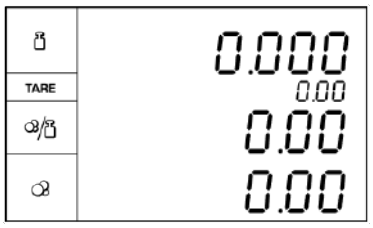
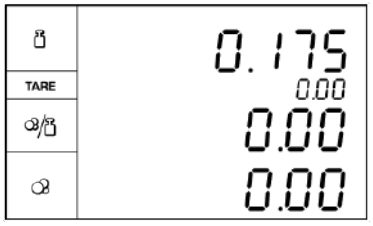
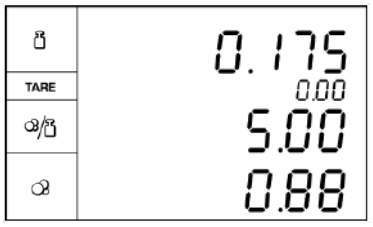
English

10 Weighing with price determination

As soon as the goods to be weighed are placed on the balance and the basic price has been set the price is calculated automatically and displayed in the provided field.

First set the desired currency in menu menu item F14.

10.1 Basic price entry via keyboard

	
Place goods to be weighed on balance.	 (example)
Enter basic price via the numeric keys 0 -() to 9 WXYZ The sales price will be calculated and displayed automatically.	 (example)

- The set basic price is deleted by CE.
- Using ⅋/🗑 switch over basic price from € / kg ⇆to € / 100g.
- Calculating the change, see chap. 10.2.3

English

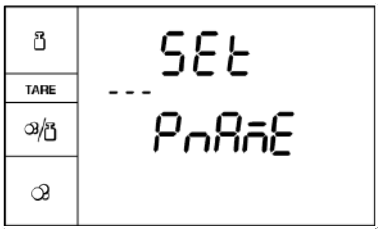
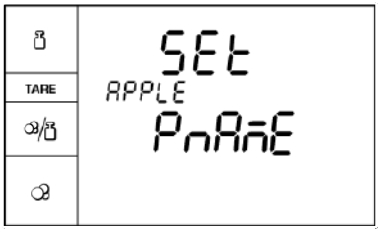
10.2 Memory for basic price (PLU = Price look up)

The balance has more than 100 indirect PLU memory locations and 4 direct ones. The following data are stored per memory location:

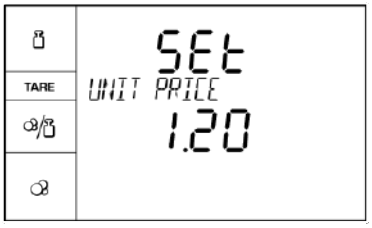
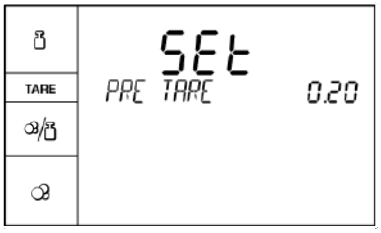
- Product code
- Product name
- Weighing type
- Sales price
- Purchase price
- Pretare value

10.2.1 Direct PLU memory locations

Save:

Press direct PLU key [1] and keep it pressed. In the display appears Set PNAmE. The display flashes.	
Use the numeric keys to enter the product **name**, e.g. APPLE. Values with up to 9 letters can be entered.	 (example)
Acknowledge with [TARE]. The **weighing type** is displayed. Either Amount or Weight. It can be calculated according to amount or according to weight. Select the desired weighing type by [4 GHI] or [6 MNO] acknowledge on [TARE].	
In the weighing type Amount in the display appears now the entry of the unit price.	

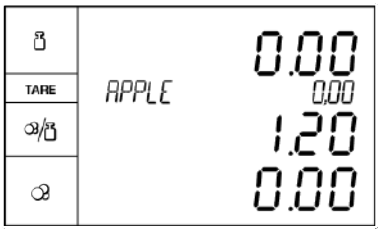
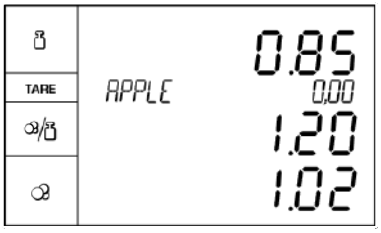
English

Use the numeric keys to enter **Unit price** and confirm by pressing TARE.	 (example)
The display to enter the **Pretare value** appears. Enter pretare value using numeric keys. Acknowledge with TARE.	 (example)

Entering the data for the direct PLU memory location "1" is herewith completed. The balance changes automatically into weighing mode.

English

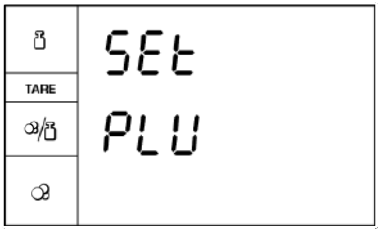
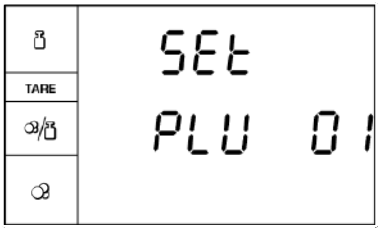
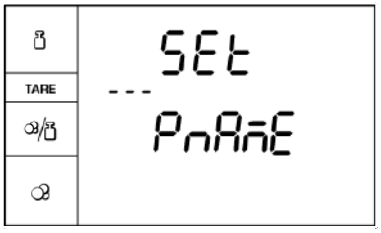
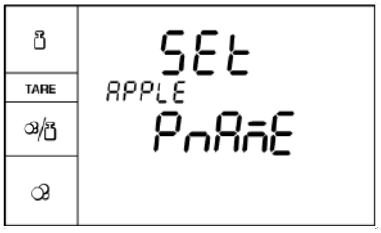
Retrieve / show sales price:

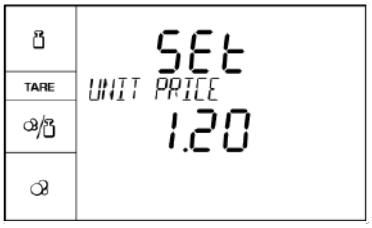
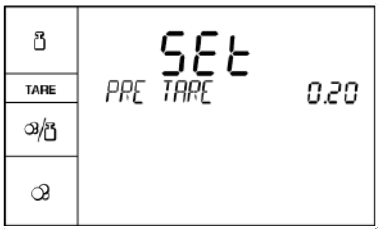
To call up the data stored before, press [1] in weighing mode. Data are displayed.	 (example)
Place the weighing good, the weight and the sales price are now displayed.	 (example)

English

10.2.2 Indirect PLU memory locations

Save:

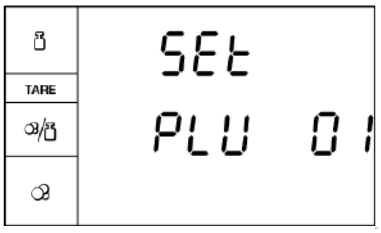
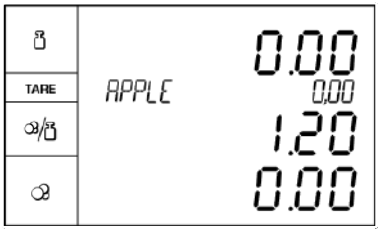
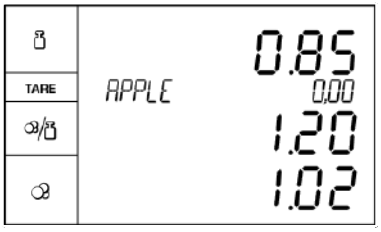
Press [PLU] and keep pressed. In the display Set PLU.	
Use the numeric keys to enter the memory location where data shall be stored.	
The display to enter the **Product name** appears.	
Use the numeric keys to enter the name. Acknowledge with [TARE].	

Acknowledge with TARE. The **weighing type** is displayed. Either Amount or Weight. It can be calculated according to amount or according to weight. Select the desired weighing type by 4 GHI or 6 MNO acknowledge on TARE.	
In the weighing type Amount in the display appears now the entry of the unit price.	
Use the numeric keys to enter **Unit price** and confirm by pressing TARE.	 (example)
The display to enter the **Pretare value** appears. Enter pretare value using numeric keys. Acknowledge with TARE.	 (example)

Entering the data for the indirect PLU memory location "01" is herewith completed.
The balance changes automatically into weighing mode.

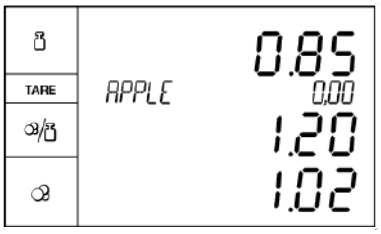
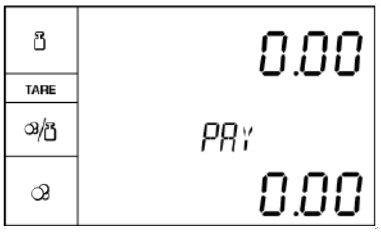
English

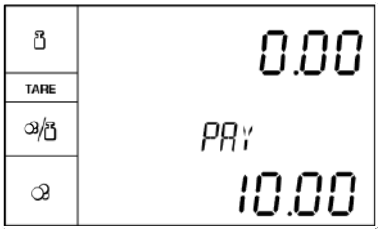
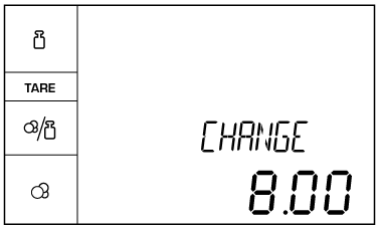
Retrieve / show sales price:

To call up the data stored before, press PLU in weighing mode. SELECT PLU is displayed. Use the numeric keys to enter the memory location.	 (example)
In the display appear the data stored before.	 (example)
Place the weighing good, the weight and the sales price are now displayed.	 (example)

English

10.2.3 Calculating the change

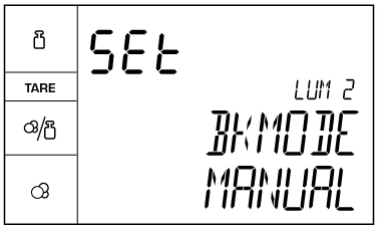
When the sales price appears, press BAR.	 (example)
PAY will be displayed.	

Use the numeric keys to enter the given amount and confirm by pressing TARE.	 (example)
The change will be shown briefly.	 (example)

English

11 Additional useful functions

11.1 Display background illumination

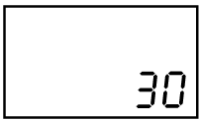
In weighing mode press [☼] and keep pressed. SET BKMODE manual will be displayed.	
Use [4 GHI] or [6 MNO] to change between the settings: • Manual • Auto • Off Use [TARE] to confirm the desired setting.	
The brightness of the display can be set by the keys [2 ABC] and [8 TUV].	

Display	Description
Auto	Background illumination on, as soon as the balance is used or the weight value is not zero
manual	Background illumination on/off by pressing [☼] .
oFF	Background lighting off

English

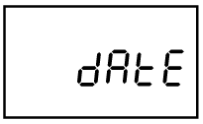
11.2 AUTO-OFF

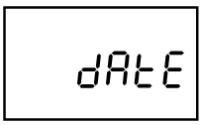
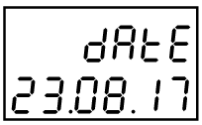
To save the rechargeable battery, the automatic switch-off function can be activated, switch-off time selectable after 3, 5, 15 or 30 minutes.

In menu F3 call up offtmE and confirm by TARE. The last selected setting will be shown.	 (example)
Select the desired time using the keys 4 GHI or 6 MNO and acknowledge on TARE. The switch-off time now is set.	

oFF	Automatic switch off deactivated
3	Automatic switch off after 3 min
5	Automatic switch off after 5 min
15	Automatic switch off after 15 min
30	Automatic switch off after 30 min

11.3 Date and time

In menu F4 call up CloCK and confirm by TARE. The last selected setting will be shown.	 (example)
Use the keys 4 GHI or 6 MNO to change between date, time and the format. We recommend to select the format first: • YYmmdd = JJMMTT • mmddYY = MMTTJJ • ddmmYY = TTMMJJ	
Here is an example: YYmmdd and press TARE to confirm. STYLE is displayed.	

Select date or time using 4 GHI or 6 MNO. In this example dAtE, confirm with TARE.	
dAtE and a date will be displayed. Enter the current date via the numeric keys and confirm by TARE.	 (example)
Set the time in the same way.	

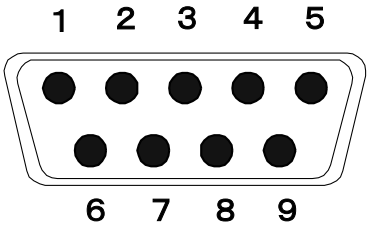
English

12 RS 232 interface

12.1 Technical data

RS 232 connection to output of weighing data
ASCII code
Baud rate 1200, 2400, 4800, 9600, 19200, 38400, 115200
8 data bits
No parity

12.2 Pin allocation of balance output bushing:



Pin 2	RXD	Input	Receiving data
Pin 3	TXD	Output	Transmission data
Pin 5	GND	—	Signal ground

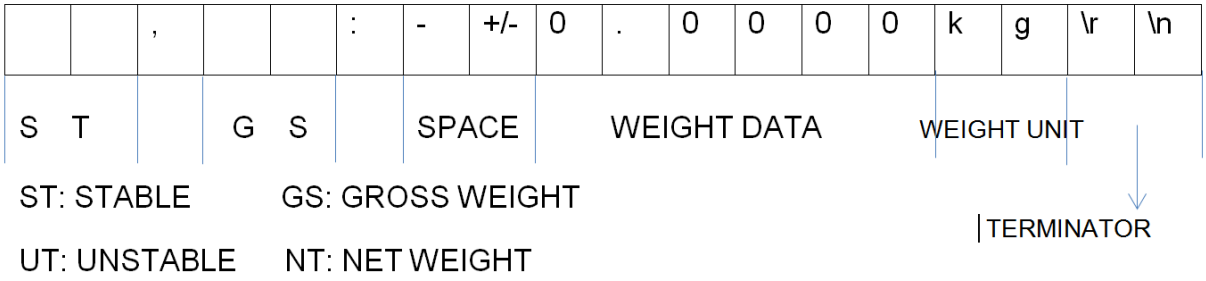
9pin D Connector:

Balance		**computer**
Pin 2	—	Pin 3
Pin 3	—	Pin 2
Pin 5	—	Pin 5

English

12.3 Data output format

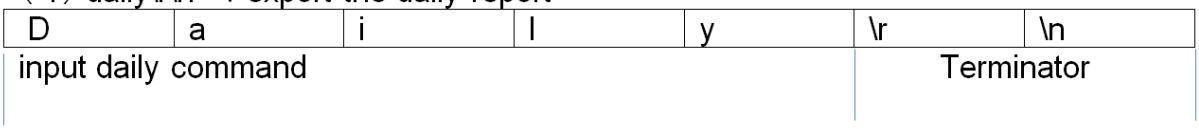
Continuous data output:



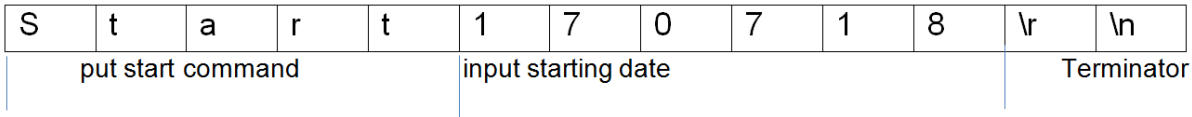
Report export:

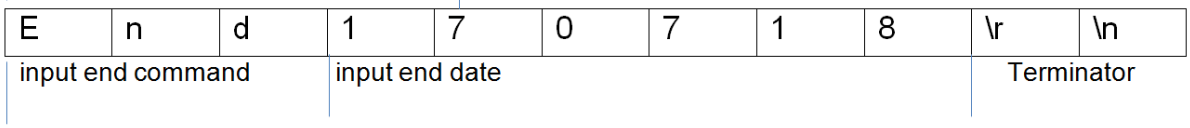
English

（1）daily\r\n ：export the daily report

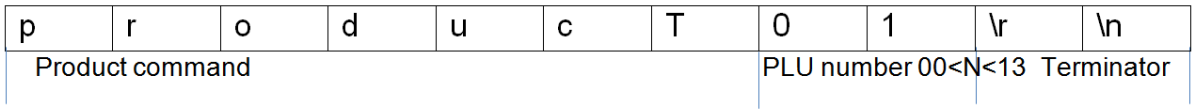


（2）start170718\r\n
end170718\r\n export report for some day

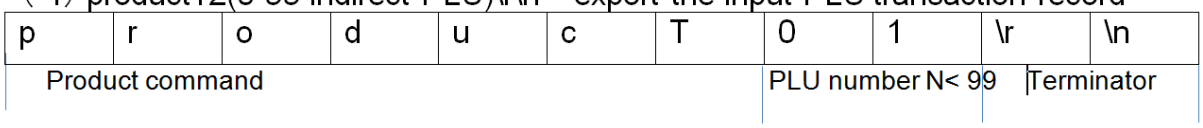




(3) product--(1-12 direct PLU)\r\n



（4）product12(0-99 indirect PLU)\r\n export the input PLU transaction record



(5) list\r\n export all PLU information (PLU should be seted)

L	i	s	t	\r	\n

List command

Terminator

(6) recordall\r\n clear all the transaction record

r	e	c	o	r	d	A	l	l	\r	\n

Recordall command

Terminator

SCALE serial port mode:
SendPlu (use for setting from back office to scale)

P 0 3 , B I G A P P L E , 1 , 5 . 0 0 , 0 . 3 0 0

P	0	3	,	B	I	G	B	A	N	A	N	A	,	1	,	5	.	0	0	,	0	.	3	0	0	,	\ r	\ n

PLU number

product name

Weighing mode

unit price

pre tare value

Terminator

English

12.4 Printout examples:

- In validated scales, the sum feature is blocked with a switch. To remove the access block, destroy the seal and press the switch.
- Menu: F6 → Format → Prt2

HEADER_LINE_1xxxxxxxxxxxxxx					Header 1
LINE_2xxxxxxxxxxxxxxxxxxxxxxxx					Header 2
LINE_3xxxxxxxxxxxxxxxxxxxxxxxx					Header 3
2018/02/12 20:26:08					Date and time
Tare(kg)	W.t(kg)	U.P.(EUR)	Price		
Tare value	Item to be weighed	Basic price	Price of load placed		

APPLE					PLU
0.460	1.999	5.00/kg	9.99		

SubTotal (EUR):			9.99		Price of load placed
Pay (EUR):			10.00		given amount
Change (EUR):			0.01		Change
FOOTER_LINE_1xxxxxxxxxxxxxx					footer 1
LINE_2xxxxxxxxxxxxxxxxxxxxxxx					footer 2
LINE_3xxxxxxxxxxxxxxxxxxxxxxx					footer 3
(The end)					End of printout

English

13 Servicing, maintenance, disposal

13.1 Cleaning

Before cleaning, please disconnect the appliance from the operating voltage.

Please do not use aggressive cleaning agents (solvents or similar agents), but a cloth dampened with mild soap suds. Ensure that no liquid penetrates into the device and wipe with a dry soft cloth.
Loose residue sample/powder can be removed carefully with a brush or manual vacuum cleaner.

Spilled weighing goods must be removed immediately.

13.2 Servicing, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.
Before opening, disconnect from power supply.

13.3 Disposal

Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

14 Instant help

In case of an error in the program process, briefly turn off the balance and disconnect from power supply. The weighing process must then be restarted from the beginning.

Fault	Possible cause
The displayed weight does not glow.	• The balance is not switched on. • The mains supply connection has been interrupted (mains cable not plugged in/faulty). • Power supply interrupted. • Batteries are inserted incorrectly or empty • No batteries inserted.
The displayed weight is permanently changing	• Draught/air movement • Glass doors not closed • Table/floor vibrations • Weighing pan has contact with other objects. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing result is obviously incorrect	• The display of the balance is not at zero • Adjustment is no longer correct. • The balance is on an uneven surface. • Great fluctuations in temperature. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

Should other error messages occur, switch balance off and then on again. If the error message remains inform manufacturer.

14.1 Error messages

-------	Overload
Err 1	Wrong data format in date input
Err 2	Wrong data format in time input
Err 4	Zero range exceeded
Err 5	Invalid entry
Err 6	Damaged electronics
Err 8	Adjustment error, check adjustment weight
Err 9	Instable; check environmental conditions
Err 19	Zero point drift; remove additional preloads (vessels) from the balance. Adjustment of the balance