



KERN & Sohn GmbH

Ziegelei 1
D-72336 Balingen
Email:
info@kern-sohn.com

Tel: +49-[0]7433- 9933-0
Fax: +49-[0]7433-9933-149
Website:
www.kern-sohn.com

KERN
eco

Operating instructions Counting Scale

KERN CPB-N / CPB-DM

Version 4.0
2026-03
en



CPB-N / CPB-DM-BA-e-2640



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Operating instructions Counting Scale

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1 Technical data

KERN	CPB 6K0.1N	CPB 15K0.2N	CPB 30K0.5N
Readability (d)	0.0001 kg	0.0002 kg	0.0005 kg
Weighing range (max)	6 kg	15 kg	30 kg
Repeatability	0.0002 kg	0.0008 kg	0.001 kg
Linearity	± 0.0004 kg	± 0.0004 kg	± 0.002 kg
Recommended calibration weight (not supplied)	5 kg (F2) + 1 kg (F2)	10 kg (F2) + 5 kg (F2)	20 kg (F2) + 10 kg (F2)
Weighing units	g	g	kg
Settling time	2 sec.		
Warm-up time	120 min.		
Minimum part weight for piece counting under laboratory conditions*	100 mg	250 mg	500 mg
Minimum part weight for piece counting under standard conditions**	1 g	2.5 g	5 g
Minimum piece weight	100 mg	250 mg	500 mg
Reference quantity	freely selectable		
Input voltage	220 V – 240 V AC 50 Hz		
Power supply Secondary voltage	12 V, 500 mA		
Battery (optional) Operating time	Backlight on: 60 h Backlight off: 70 h		
Battery charging time	12 hours		
Auto-off (battery)	selectable: 3, 5, 15, 30 mins		
Dimensions when fully assembled (W x D x H)	320 x 350 x 125 mm		
Weighing surface	294 x 225 mm		
Permissible ambient conditions	0°C to +40°C		
Humidity	max. 80% relative (non-condensing)		
Net weight (kg)	3.8 kg		

KERN	CPB 6K1DM	CPB 15K2DM	CPB 30K5DM
Readability (d)	0.001 kg; 0.002 kg	0.002 kg; 0.005 kg;	0.005 kg; 0.01 kg;
Weighing range (Max)	3 kg; 6 kg	6 kg; 15 kg	15 kg; 30 kg
Minimum weight (min)	20 g	40 g	100 g
Reproducibility	0.001 kg; 0.002 kg	0.002 kg; 0.005 kg	0.005 kg; 0.01 kg
Linearity	± 0.002 kg; ± 0.004 kg	± 0.004 kg; ± 0.01 kg	± 0.01 kg; ± 0.02 kg
Calibration value (e)	1 g	2 g	5 g
Accuracy class	III		
Recommended calibration weight (not included)	5 kg (F2) + 1 kg (F2)	10 kg (F2) + 5 kg (F2)	20 kg (F2) + 10 kg (F2)
Weighing units	g	g	kg
Settling time	2 sec.		
Warm-up time	10 min.		
Minimum part weight for piece counting under laboratory conditions*	100 mg	250 mg	500 mg
Minimum part weight for piece counting under standard conditions**	1 g	2.5 g	5 g
Minimum piece weight	100 mg	250 mg	500 mg
Reference quantity	freely selectable		
Input voltage	220 V – 240 V AC 50 Hz		
Power supply	12 V, 500 mA		
Secondary voltage			
Battery (optional)	Backlight on: 60 hours		
Operating time	Backlight off: 70 hours		
Battery charging time	14 hours		
Auto-off (battery)	selectable: 3, 5, 15, 30 mins		
Dimensions fully assembled (W x D x H)	320 x 350 x 125 mm		
Weighing surface	294 x 225 mm		
Permissible ambient conditions	-10°C to +40°C		
Humidity	max. 80% relative (non-condensing)		
Net weight (kg)	3.8 kg		

***Minimum part weight for piece counting – under laboratory conditions:**

- Ideal environmental conditions prevail for high-resolution counting
- No dispersion of counted parts weight

****Minimum part weight for piece counting – under standard conditions:**

- Unstable environmental conditions prevail (draughts, vibrations)
- Dispersion of counted parts weight

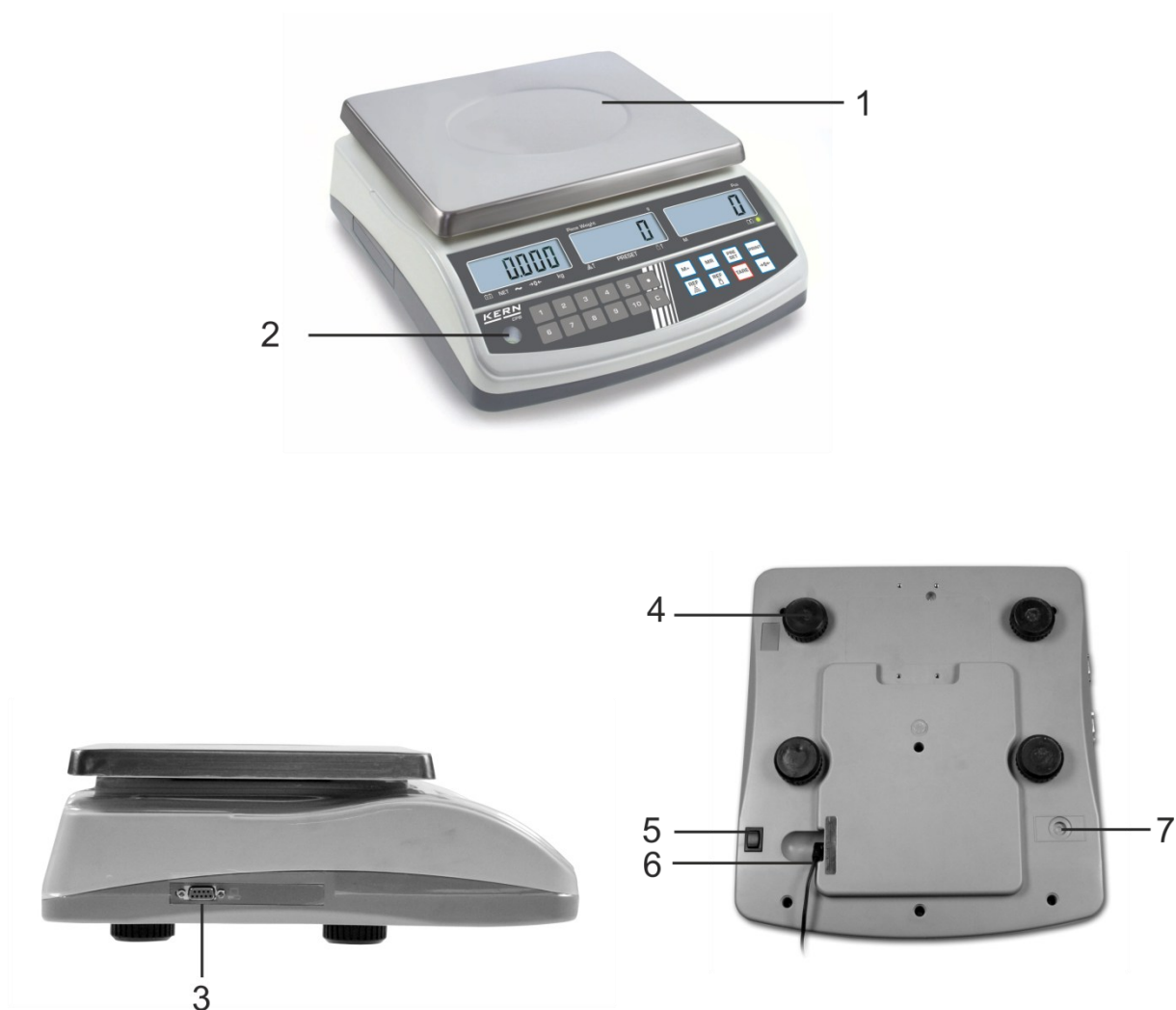
2 Declaration of Conformity

The current EC/EU Declaration of Conformity can be found online at:

www.kern-sohn.com/ce

i For verified scales (= conformity-assessed scales), the Declaration of Conformity is included in the scope of delivery.

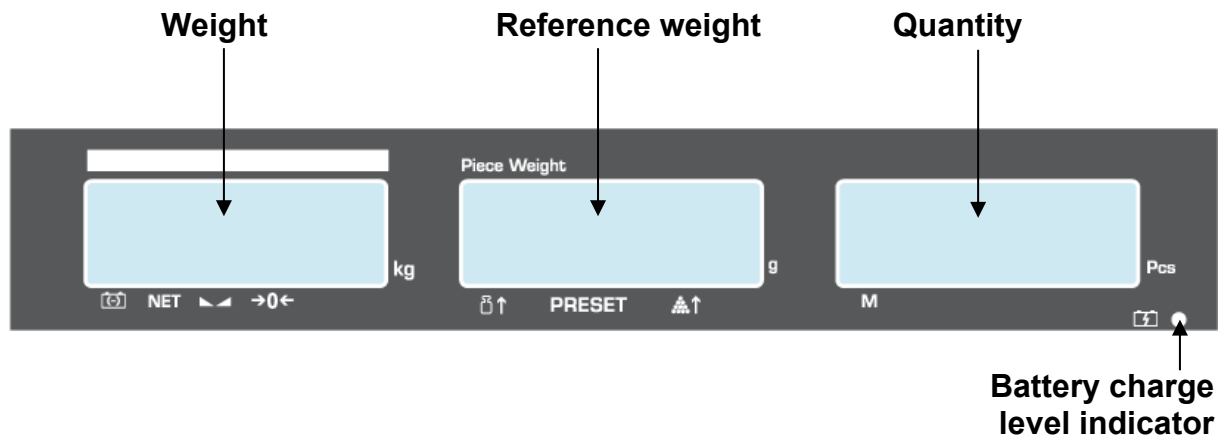
3 Device overview



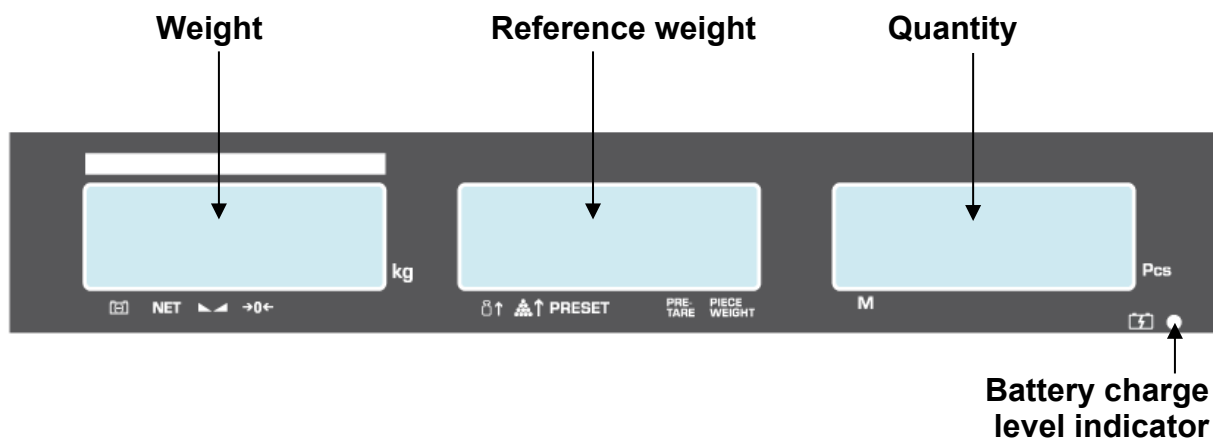
1. Weighing plate / battery compartment (under the weighing plate)
2. Spirit level
3. RS 232 interface
4. Foot screws
5. On/off switch
6. Power adapter connection
7. Adjustment switch

3.1 Display overview

CPB-N models



CPB-DM models



3.1.1 Weight display

The weight of your sample is displayed here in [kg].

The arrows above the symbols indicate:

	Battery capacity nearly depleted
NET	Net weight
	Stability indicator
a	Tare indicator

3.1.2 Reference weight display

The reference weight of a sample is displayed here in [g]. This value is either entered by the user or calculated by the scale.

The arrows above the symbols indicate:

	that the reference weight placed on the scale is too small
PRESET	that a target count/target weight has been saved
	that the number of items placed on the scale is too small
PRE TARE	that a tare value is stored
PIECE WEIGHT	that a piece weight is stored

3.1.3 Display of number of pieces

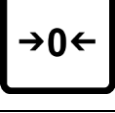
All placed parts are immediately displayed here in units.

The arrows above the symbols indicate:

M	that data is in the total memory
----------	----------------------------------

3.2 Keyboard overview



Selection	Function
	Number keys
	- Clear key - Call up target quantity and target weight mode
	Addition to total memory
	Call up total memory
	- Input/display of limit value for tolerance check - Activating the display backlight (long press)
	Output to external device (printer) or PC
	Input of reference weight by weighing
	- Numerical entry of reference weight - Function/parameter selection
	- Tare button - Save
	- Tare button - Return to weighing mode

4 Basic information (General)

4.1 Intended use

The scale you have purchased is designed to determine the weight of items being weighed. It is intended for use as a “non-automatic weighing instrument”, i.e. the item to be weighed is placed manually, carefully and centrally on the weighing plate. Once a stable weight has been reached, the weight can be read.

4.2 Improper use

- Our scales are non-automatic scales and are not intended for use in dynamic weighing processes. However, the scales may also be used for dosing applications following a review of the specific application and accuracy requirements.
- Avoid impacts and overloading the scale beyond the specified maximum load (Max) at all costs. This could damage the scale.
- Do not operate the scale in potentially explosive atmospheres.
- The scale must not be structurally modified. This can lead to incorrect weighing results, safety defects and the destruction of the scale.
- The scale must only be used in accordance with the specifications provided.

4.3 Warranty

The warranty is void in case of

- Failure to observe our instructions in the operating manual
- Use outside the described applications
- Modification or opening of the device
- Mechanical damage and damage caused by media, liquids, natural wear and tear
- Improper setup or incorrect electrical wiring
- Overloading of the measuring mechanism

4.4 Test equipment monitoring

As part of quality assurance, the metrological characteristics of the scale and any test weights must be checked at regular intervals. The responsible user must define a suitable interval for this, as well as the nature and scope of the test. Information regarding the monitoring of weighing equipment and the test weights required for this purpose is available on the KERN website (www.kern-sohn.com). KERN's accredited calibration laboratory offers a fast and cost-effective service for the calibration of test weights and scales (traceability to the national standard).

5 Basic safety instructions

5.1 Observe the instructions in the operating manual



- ⇒ Read the operating instructions carefully before installation and commissioning, even if you already have experience with KERN scales.

5.2 Staff training

The instrument must only be operated and maintained by trained personnel.

6 Transport and storage

6.1 Inspection on delivery

Please check the packaging immediately upon receipt and the device whilst unpacking for any visible external damage.

6.2 Packaging/Return transport



- ⇒ Keep all parts of the original packaging in case return transport is necessary.
- ⇒ Only the original packaging must be used for return transport.
- ⇒ Before dispatch, disconnect all connected cables and remove any loose or movable parts.
- ⇒ Reattach any transport securing devices provided.
- ⇒ Secure all parts, e.g. windscreen, weighing plate, power supply unit, etc., to prevent them from slipping and being damaged.

7 Unpacking, installation and commissioning

7.1 Installation site, place of use

The scales are designed to provide reliable weighing results under normal operating conditions.

You will work accurately and quickly if you choose the right location for your scale.

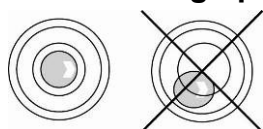
Therefore, please note the following regarding the installation site:

- Place the scale on a stable, level surface.
- Avoid extreme heat and temperature fluctuations, e.g. by placing the scale next to a radiator or in direct sunlight.
- Protect the scale from direct draughts caused by open windows and doors.
- Avoid vibrations during weighing.
- Protect the scale from humidity, vapours and dust.
- Do not expose the instrument to high humidity for prolonged periods. Unauthorised condensation (condensation of moisture on the instrument) may occur if a cold instrument is moved into a significantly warmer environment. In this case, allow the instrument, disconnected from the mains, to acclimatise at room temperature for approx. 2 hours.
- Avoid static charging of the sample and weighing plate.
- Do not operate in areas at risk of explosion due to explosive substances or in areas at risk of explosion due to gases, vapours, mists or dust!
- Keep chemicals (e.g. liquids or gases) that could corrode or damage the balance, either internally or externally, away from the instrument.
- In the presence of electromagnetic fields, static charge (e.g. when weighing/counting plastic parts) or an unstable power supply, significant display deviations (incorrect weighing results and damage to the scale) may occur. The location must then be changed or the source of interference eliminated.

7.2 Unpacking

Remove the instrument and accessories from the packaging, remove the packaging material and set up the instrument at the designated workstation. Check that all parts included in the scope of delivery are present and undamaged.

7.2.1 Setting up



Level the scale using the levelling screws until the air bubble in the spirit level is within the prescribed circle.

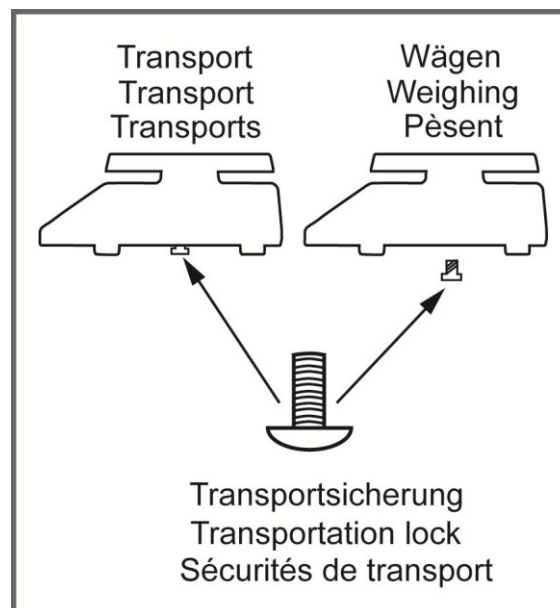


It is essential to remove the transport lock
(only present on 6 kg models)



To release the transport lock, unscrew the transport screw [1] anti-clockwise.

For transport, carefully screw the transport screw in clockwise as far as it will go and then secure it with the lock nut.



7.2.2 Scope of delivery

Standard accessories:

- Scale
- Weighing plate
- Mains cable
- Protective hood
- Operating instructions

7.3 Mains connection

Power is supplied via the external power supply unit. The voltage rating printed on the unit must correspond to the local mains voltage.

Use only original KERN power supplies. The use of other brands requires KERN's approval.

7.4 Battery operation (optional)

The internal battery is charged via the supplied mains cable.

The battery should be charged for at least 12 hours via the mains cable before first use. The battery's operating time is approx. 70 hours. The charging time to full capacity is approx. 12 hours.

AUTO-OFF function selectable after 3, 5, 15 or 30 minutes to conserve battery power (see chapter 12).

If an arrow [▼] appears in the weight display above the battery symbol , or "bat lo" appears when the scale is switched on, the battery capacity is nearly exhausted. The scale will remain operational for approx. 10 hours, then it will switch off automatically. Plug in the mains cable as soon as possible to charge the battery.

The LED display below the count window shows the battery's charge status whilst it is charging.

Red:	Battery is almost flat
Green:	Battery is fully charged

7.5 Connecting peripheral devices

Before connecting or disconnecting additional devices (printer, PC) to the data interface, the scale must be disconnected from the mains.

Only use KERN accessories and peripheral devices with your scale; these are optimally matched to your scale.

7.6 Initial start-up

A warm-up period of 2 hours after switching on stabilises the readings.

The accuracy of the scale depends on the local gravitational acceleration.

It is essential to follow the instructions in the Calibration chapter.

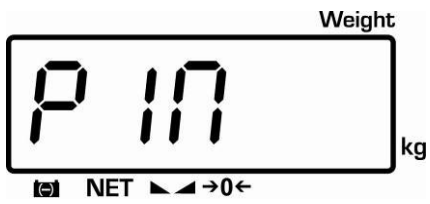
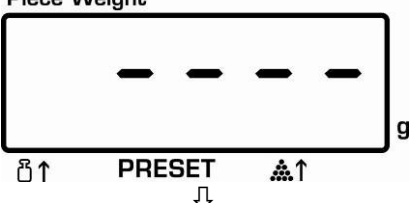
7.7 Calibration

As the value of gravitational acceleration is not the same everywhere on Earth, every scale – in accordance with the underlying physical weighing principle – must be calibrated at the installation site to the gravitational acceleration prevailing there (only if the scale has not already been calibrated at the factory for the installation site). This calibration procedure must be carried out during initial commissioning, after every change of location, and in the event of fluctuations in ambient temperature. To obtain accurate readings, it is also recommended to calibrate the scale periodically during weighing operations.

Adjustment procedure:

Ensure stable ambient conditions. A warm-up period (see chapter 1) is required for stabilisation. Ensure that there are no objects on the weighing platform. Have the calibration weight ready; for details, see the chapter 1 “Technical Data”.

7.7.1 CPB-N models (non-verified models)

Operation	Display
⇒ Switch on the scale and press the TARE key during the self-test 	
⇒ Enter the password using the number keys, • Default password “0000” If this password cannot be entered, a personal password can be set; (set via the function [F6 Pin] see section 12.1). However, the calibration process can also be continued by pressing the TARE key.	 

⇒ Press the TARE key; the value of the acceleration due to gravity is displayed.

⇒ Press the TARE key again.



“UnLoAd”, followed by “LoAd”, is displayed

Piece Weight
9.8 1000 g

Weight
UNLOAd kg
NET →0←



Weight
LOAd kg
NET →0←

⇒ Carefully place the calibration weight (see chapter 1) in the centre of the weighing platform; “PASS” is displayed.

⇒ Remove the calibration weight whilst the scale is performing a self-test.

Once calibration is complete, the scale automatically returns to weighing mode.

If a calibration error occurs or the wrong calibration weight is used, an error message appears on the display; repeat the calibration procedure.

Piece Weight
PASS g

Weight
99999 kg
NET →0←



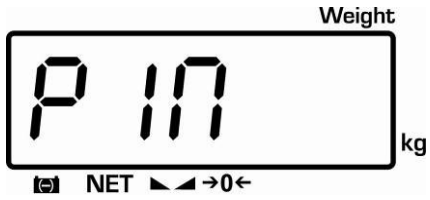
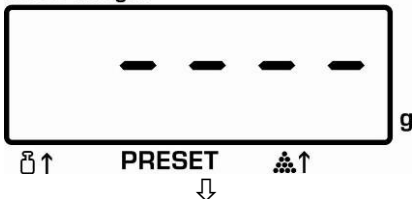
Weight
0.0 kg
NET →0←

7.7.2 CPB-DM models (verified models)

i On verified scales, the adjustment function is disabled. To perform adjustment, the seal must be broken and the calibration switch must be pressed when switching on the scale. For the position of the calibration switch, see section 7.9.1.

Caution:

After the seal has been broken, the scale must be re-verified by an authorised body and a new seal affixed before it may be used again in applications subject to legal metrology requirements.

Operation	Display
⇒ Switch on the scale and, during the self-test, operate the adjustment switch and press the TARE key 	
⇒ Enter the password using the numeric keys: Either - the default password "0000" or - your personal password, entered via the function [F6 Pin] (see section 12.1) ⇒ Confirm with the TARE key	Piece Weight  

⇒ TARE key, “UnLoAd” appears

⇒ Press the TARE button again



“LoAd” and the currently set calibration weight is displayed flashing

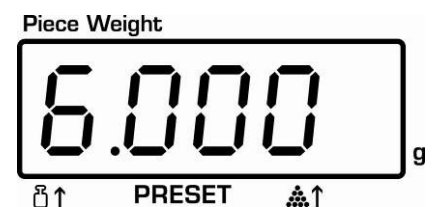
Either

- Confirm with TARE

or

- To change the value, enter the desired calibration weight using the numeric keys and confirm with the TARE key.

To obtain high-quality metrological weighing results, it is recommended to select the highest possible nominal value. We recommend 80% of max.



(example)

⇒ Carefully place the calibration weight in the centre of the weighing platform

⇒ Wait for the stability indicator to appear, then press the TARE key



⇒ Remove the calibration weight whilst the scale is performing a self-test.



Once calibration is complete, the scale automatically returns to weighing mode.

If there is a calibration error or the wrong calibration weight is used, an error message appears on the display; repeat the calibration procedure.

7.8 Linearisation (non-verified models only)

Linearity indicates the greatest deviation of a scale's weight reading from the value of the respective test weight, in both positive and negative directions, across the entire weighing range.

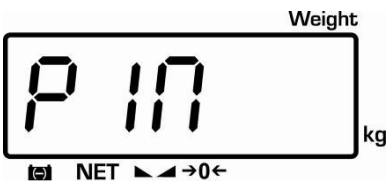
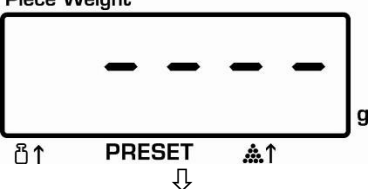
If a linearity deviation is detected during test equipment monitoring, this can be improved by linearisation.



- Linearisation must only be carried out by a qualified technician with in-depth knowledge of scales.
- The test weights to be used must be compatible with the scale's specifications; see section 4.4 "Test equipment monitoring".
- Ensure stable ambient conditions. A warm-up period is required for stabilisation.
- Once linearisation has been completed, a calibration must be carried out; see section 4.4 "Test equipment monitoring".

Table 1: Calibration points

Calibration weight	CPB 6K0.1N	CPB 15K0.2N	CPB 30K0.5N
1.	1 kg	3 kg	5 kg
2.	2 kg	5 kg	10 kg
3.	4 kg	10 kg	15 kg
4.	6 kg	15 kg	30 kg

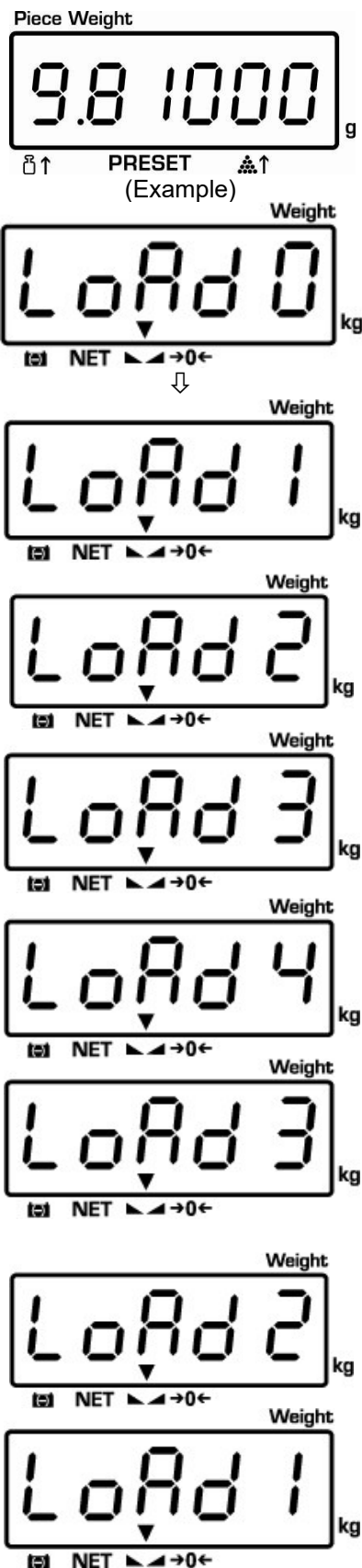
Operation	Display
Performing linearisation: ⇒ Switch on the scale and press the TARE key during the self-test 	
⇒ Use the numeric keys to enter the password "9999" ⇒ Confirm using the TARE key 	 

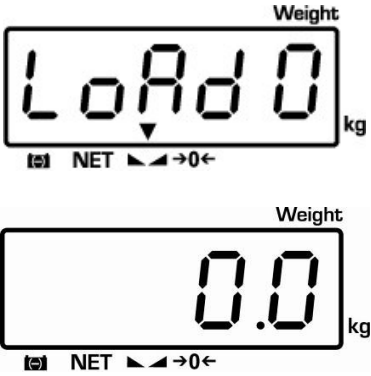
- ⇒ Press the TARE key; the value of gravitational acceleration is displayed.
- ⇒ Press the TARE key again



“LoAd 0” appears; after a short time, a beep sounds and “LoAd 1” appears

- ⇒ First calibration weight (see Table 1)
After a short while, a beep sounds and “LoAd 2” is displayed
- ⇒ Second calibration weight
After a short while, another beep sounds and “LoAd 3” is displayed.
- ⇒ Third calibration weight
After a short while, a beep sounds again and “LoAd 4” is displayed.
- ⇒ Fourth calibration weight
After a short while, another beep sounds and “LoAd 3” is displayed.
- ⇒ Fourth calibration weight
After a short while, a beep sounds and “LoAd 2” is displayed
- ⇒ Third calibration weight
After a short while, a beep sounds and “LoAd 1” is displayed



⇒ Second calibration weight After a short time, a beep sounds and “LoAd 0” is displayed ⇒ First calibration weight ⇒ Once linearisation is complete, the scale automatically returns to weighing mode.	
---	--

If there is a calibration error or the wrong calibration weight is used, an error message appears on the display; repeat the linearisation process.

7.9 Verification

General information:

In accordance with EU Directive 2009/23/EC, scales must be verified if they are used as follows (legally regulated area):

- a) In commercial transactions, where the price of goods is determined by weighing.
- b) In the manufacture of medicines in pharmacies and in analyses in medical and pharmaceutical laboratories.
- c) For official purposes.
- d) In the production of prepackaged goods.

If in doubt, please contact your local calibration office.

After the verification process, the scale is sealed at the marked positions.

The verification of the scale is invalid without the “seal marks”.

Calibration notes

The scale designated as verifiable in the technical data has EU type approval. If the scale is used in a field requiring verification as described above, it must be verified and re-verified at regular intervals.

The re-verification of a scale is carried out in accordance with the relevant legal provisions of the respective countries. In Germany, for example, the verification validity period for scales is generally 2 years.

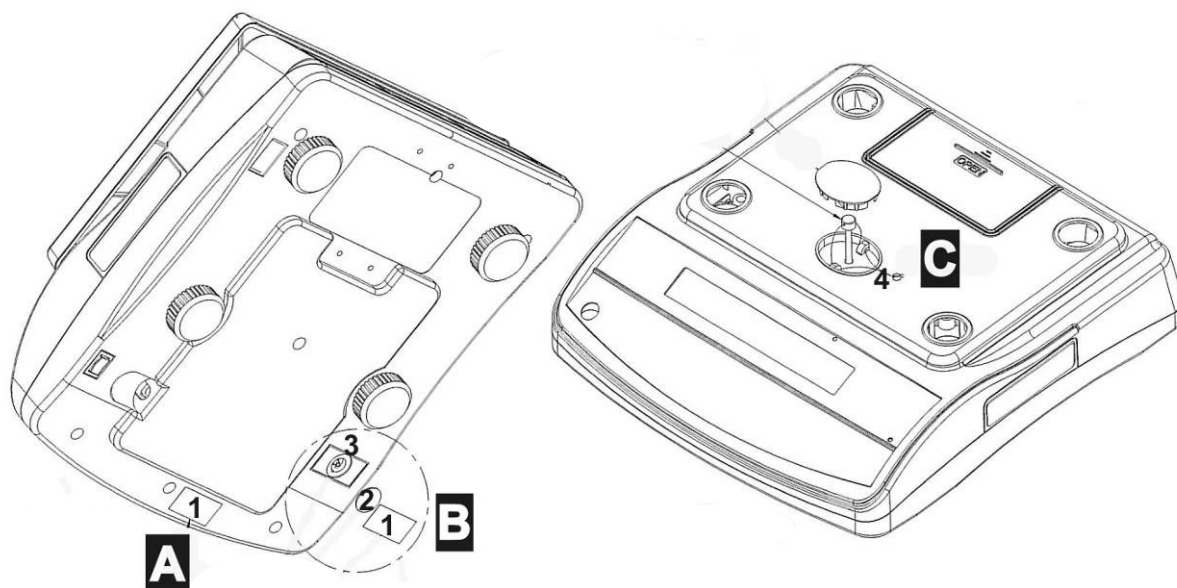
The legal requirements of the country of use must be observed!

Scales subject to verification must be taken out of service if:

- The **weighing result** of the scale lies outside the **permissible error limit**. Therefore, load the scale at regular intervals with a known test weight (approx. 1/3 of the maximum load) and compare it with the displayed value.
- **The re-verification deadline** has been exceeded.

7.9.1 Calibration switches and seal marks

Possible seals: **B** mandatory, additionally **A** or **C**



1. Seal mark 1
2. Cover
3. Calibration switch
4. Calibration wire

7.10 Checking the scale settings regarding the verification of a scale

To perform the adjustment, the scale must be switched to service mode.

i In service mode, the scale's parameters can be changed.
Service parameters must not be changed, as this will affect the scale settings.

On verified scales, the service mode is locked via a switch. To remove the access lock, the seal must be broken and the switch operated. For the position of the switch, see section 7.9.1.

Please note:

Once the seal has been broken, the scale must be re-verified by an authorised body and a new seal affixed before it may be used again in applications subject to verification.

7.11 Service mode (verified models)

The overview of service parameters is intended solely for the verification of the set parameters by the competent calibration authority. No changes may be made.

Accessing the menu:

⇒ Switch on the scale and press the TARE key during the self-test

⇒ Enter the password using the numeric keys:

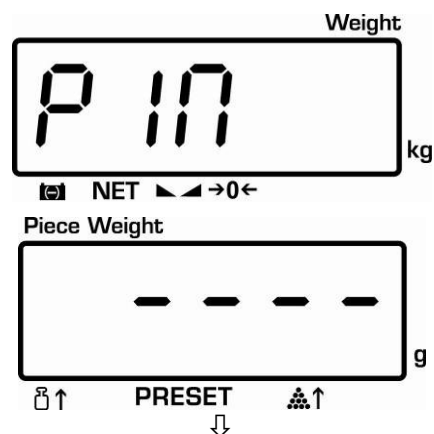
Either

- the default password “0000”

or

- your personal password, set under Function[F6 Pin] see section 12.1

⇒ Confirm using the TARE key



Select function:

⇒ Use  to select the individual menu items with their current settings one by one.

Change/save settings:

⇒ Confirm the selected function with . Use  to select the desired setting and confirm with  or discard with .

Exit menu:

⇒ Press  to return the scale to weighing mode.

Overview of service parameters:

* = Factory settings

◇ = Menu item locked; to make changes, press the calibration switch

Menu block Main menu	Menu item Submenu	Available settings / Explanation				
F1 CAL ◇		Calibration				
F2 rES ◇	6000d *	Resolution				
	duAL	Always use this setting				
	30000 d					
	3000 d					
F3 Cnt		A/D value				
F4 AU Totalisation mode and data output	AU on* Automatic totalisation mode	b9600*, b600, b1200, b2400, b4800	LP 50	EnG	CHi	not documented
			tP	Default printer setting		
	P ASt	b9600*, b600, b1200, b2400, b4800	EnG	CHi		Remote control commands
	P Cont	b9600*, b600, b1200, b2400, b4800	Sd0 on	Send zero: on		Continuous data output
			Sd0 off	Send zero: off		
	AU off Manual totalisation mode	b9600*, b600, b1200, b2400, b4800	LP 50	EnG	CHi	not documented
			tP	Default printer settings		
F5 tAr ◇ Pre-tare	Pt oFF*	Pre-tare value off: always use this setting				
	Pt on	Pre-tare value on				
F6 Pin ◇ Password	Pin 1*	Enter new password				
	PIN 2	Confirm new password				
F7 SPd ◇ Display speed	SPd 7.5*	not documented				
	SPd 15					
	SPd 30					
	SPd 60					
F8 OFF Auto Off	oF 0*	Automatic switch-off off				
	oF 3	Automatic switch-off after 3 mins				
	oF 5	Automatic switch-off after 5 mins				
	oF 15	Automatic switch-off after 15 mins				
	oF 30	Automatic switch-off after 30 mins				

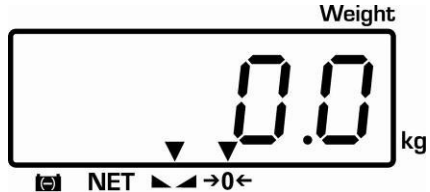
F9 Grv [◇] Gravity		Not documented
F10 bEP Acoustic signal	ok*	Audible signal when the weight of the item being weighed is within the set range
	Low	Beep when the weight is below the lower limit
	nG	Beep when the item being weighed is outside the set range
	HiGH	Beep when the weight is above the upper limit
	oFF	Audible signal deactivated
F11 t n [◇]	P-tArE	Always use this setting
	o-tArE	
F12 rSt	Reset to factory settings	
F13 bEE	off on	Audible signal when button is pressed
F14 AUW**	off on	Automatic correction of the reference weight

*Factory setting

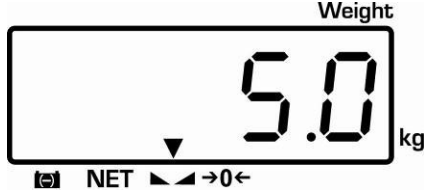
**F14 Available only for models that can be verified. Verifiable models end with M.

8 Operation

8.1 Switching on/off and resetting to zero

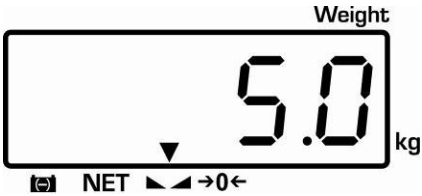
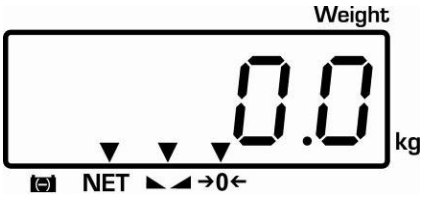
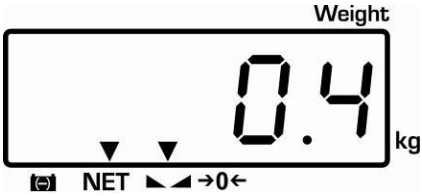
Operation	Display
1. Switching on the scale Press and hold the ON/OFF switch briefly (on the lower right-hand side of the scale) The scale performs a self-test.	As soon as “0” appears in all three display windows, your scale is ready for weighing. 
2. Tare 	 The zero display and the arrow above the “→ 0←” symbol appear.

8.2 Simple weighing

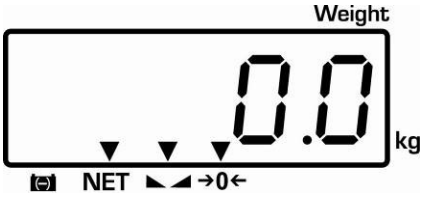
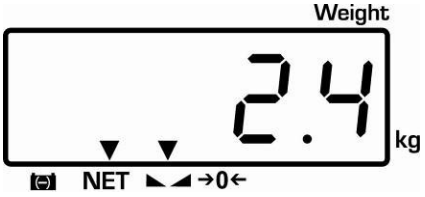
Operation	Display
Place the item to be weighed on the weighing plate	Read the weighing result  When the weight reading is stable, the arrow above the ►◄ symbol appears.
If the item being weighed exceeds the weighing range, “QL” (=overload) appears on the display and a beep sounds.	

8.3 Weighing with tare

The tare weight of any weighing container can be subtracted at the touch of a button so that the net weight of the item is displayed for subsequent weighings.

Operation	Display
Place the empty tare container on the weighing platform. The total weight of the container is displayed.	 (Example)
Resetting the display to "0": 	 The weight of the container is now stored internally. The zero display and the arrows above the symbols NET ->0 appear.
Place the item to be weighed in the tare container.	Now read the weight of the item to be weighed from the display. 

i	- The taring process can be repeated as many times as required, for example when weighing in several components to make a mixture (additional weighing). The limit is reached when the entire weighing range is utilised. - The tare value is rounded according to the scale's readability.
----------	--

Resetting the display to “0”: 	 The total weight of the container is tared.
Add further components to the weighing container (additional weighing).	Now read the weight of the added material from the display. 

Clearing the tare value:

⇒ With the weighing platform unloaded, press .

8.4 Display backlight

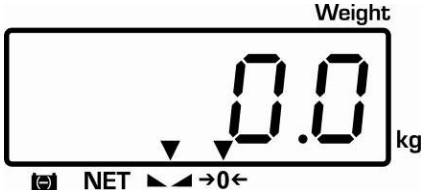
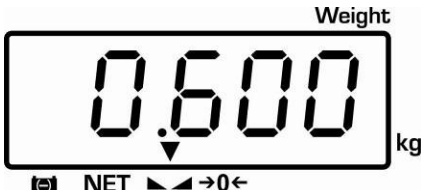
The scale offers the following settings for the display backlight:

In weighing mode, press and hold . The last setting selected is displayed. Use  to choose one of the following settings:	
• Display backlight off	
• Display backlight on	
• Display backlight off automatically	
Confirm the desired setting with . The setting is applied and the scale switches to weighing mode.	

9 Piece counting

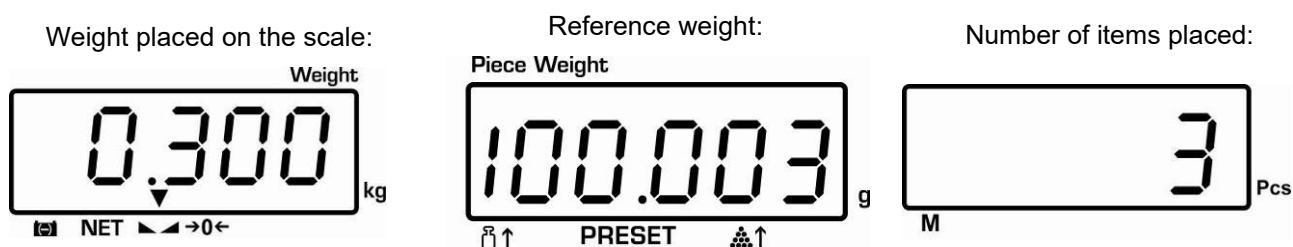
When counting pieces, you can either count parts into a container or count parts out of a container. To count a large quantity of parts, the average weight per part must be determined using a small quantity (reference count). The larger the reference count, the higher the counting accuracy. The reference count must be set particularly high for small parts or parts that vary greatly in weight.

9.1 Determining the reference weight by weighing

Operation	Display
⇒ Zero the scale or, if necessary, tare the empty weighing container.	
Setting the reference: ⇒ Place a known number of individual items on the scale as a reference ⇒ Wait for the stability indicator, then enter the number of items using the numeric keys. Confirm within 5 seconds: “SAMP” is displayed briefly; The reference weight is calculated and displayed.	  

Counting items:

Tare if necessary, place the sample on the scale and read the number of items.



When an optional printer is connected, the displayed value is printed by pressing .

Printout example KERN YKB-01N:

Item counter
Weight placed
Reference weight
Number of pieces
placed

NO.	0
GS	0.300 kg
U.W.	100.0000 g
PCS	3 pcs

Notes:

- If necessary, the reference weight is recalculated when further parts are placed on the scale, provided their number is smaller than the reference weight. This reference optimisation is indicated by an audible signal.
- The reference weight is determined only when the weighing values are stable
- If the weight is below zero, the piece count display shows a negative number of pieces.

Press Delete

Press  to delete the reference weight.

9.2 Entering the reference weight numerically

If you know the weight per item, you can enter it using the number keys.

Set reference:

Enter the reference weight using the numeric keys

Confirm within 5 seconds:



Piece Weight



Count items:

If necessary, tare the scale, place the item to be weighed on the platform and read the number of items.

Weight placed on the scale:



Reference weight:



Number of items placed:



When an optional printer is connected, the displayed value is printed by pressing .

Printout example KERN YKB-01N:

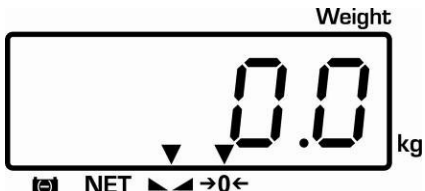
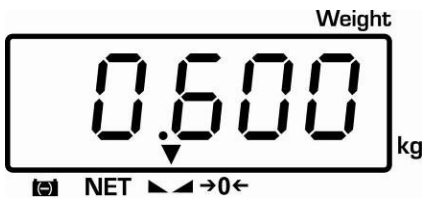
Item counter
Weight placed
Reference weight
Number of pieces
placed

NO.	0
GS	0.500 kg
U.W.	100 g
PCS	5 pcs

9.3 Automatic correction of the reference weight (verifiable models only)

The scale has the ability to automatically correct any deviation of the reference weight from the previously set reference weight value.

	Menu setting: [F14 AU on], see section 12.1 *
---	--

Operation	Display
⇒ Zero the scale or, if necessary, tare the empty weighing plate.	
Set reference: ⇒ Place a known number of individual items on the scale as a reference ⇒ Wait for the stability indicator, then enter the number of items using the numeric keys. Confirm within 5 seconds:  “SAMP” is displayed briefly; The reference weight is determined and displayed.	 Piece Weight  Piece Weight 
⇒ Place further items to be weighed on the scale; the scale corrects the reference weight and an audible signal sounds if this has been activated under menu item “F13 bee”	Piece Weight  (Example)

*F14 Available only for models suitable for verification. Models suitable for verification end with M.

10 Totalisation

This function allows you to perform multiple weighings. You are then shown the total number of items, the total weight and the number of weighings.

10.1 Manual totalisation



- Menu setting: [F4 ON or OFF], see section 12.1

⇒ Determine the average unit weight (see section 9.1) or enter it manually (see section 9.2).

⇒ Place item **A** on the platform.

⇒ Wait for the stability indicator, then press **M+**. The displayed values are added to the total memory and printed out if an optional printer is connected. The weight, number of weighings (ACC 1) and the number of items is displayed for 2 seconds.

Piece Weight

100 g



PRESET



Weight

2.000 kg

NET →0←

Current weight

Piece Weight

100 g



PRESET



Selected unit weight

20 Pcs

M

Number of items currently placed

Printout example KERN YKB-01N:

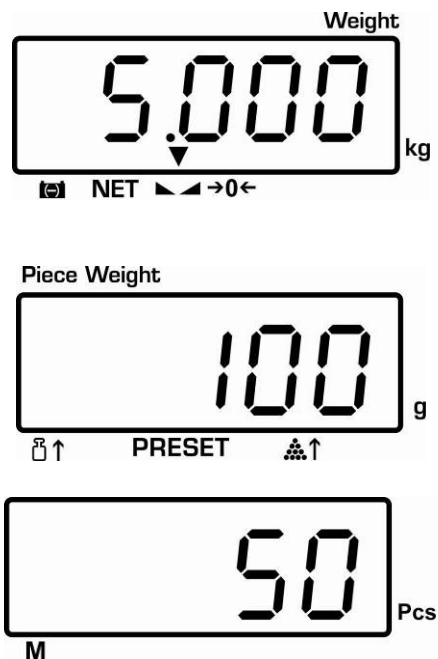
Number of weighings
Weight applied
Reference weight
Number of pieces placed

NO.	1
GS	2.000 kg
U.W.	100 g
PCS	20 pcs

⇒ Remove the item being weighed. Further items can only be added once the display reads ≤ zero.

⇒ Place item **B** on the scale.

⇒ Wait for the stability indicator, then press **M+**. The displayed values are added to the total memory and printed out if an optional printer is connected. The total weight, number of weighings (ACC 2) and total number of items is displayed for 2 seconds.



Printout example KERN YKB-01N:

Number of weighings
Weight applied
Reference weight
Number of pieces placed

NO.	2
GS	5.000 kg
U.W.	100 g
PCS	50 pcs

⇒ If necessary, add further items to be weighed as described above. Ensure that the weighing system is unloaded between individual weighings.

⇒ This process can be repeated until the weighing system's capacity is exhausted.

Display total:

⇒ Press **MR**, the total weight, number of weighings and total number of items is displayed briefly.
To output the data whilst this display is active, press **PRINT**.

Weight
7.000 kg

NET →0←
Total weight

Number of weighings

70 Pcs

M

Current total count

Printout example KERN YKB-01N:

Total
Number of weighings
Total weight
Total quantity

Total	
NO.	2
wgt	5.000 kg
PCS	50 pcs

Clear total memory

⇒ Press **MR**; the total weight, number of weighings and total number of items is displayed. While this information is displayed, press **C**. The data in the total memory is cleared.

10.2 Automatic totalisation

With this function, the individual weight values are automatically added to the total memory when the scale is unloaded, without pressing , and printed out if an optional printer is connected.



Menu settings: [F4 AU oN]

Tallying:

- ⇒ Place item A on the scale.
Once the stability check is complete, an audible signal sounds. Remove the sample; the weight value is added to the total memory (ACC1) and printed.
- ⇒ Place item B on the scale.
Once the stability check is complete, an audible signal sounds. Remove the item; the weight is added to the total memory (ACC2) and printed.
- ⇒ If required, add further items as described above. Ensure that the scale is unloaded between individual weighings.
- ⇒ This process can be repeated 99 times or until the scale's capacity is exhausted.



To view and clear the total sum, and for a printout example, see section 10.1.

11 Weighing to target number of items or target weight and tolerance check

An audible signal sounds when the number of parts placed on the scale, or a specific weight value, reaches, exceeds or falls below a preset limit (depending on the setting in menu F10)

Selectable:

- **OK** Audible signal if the weighed item is within the set range
- **Low** Audible signal when the item being weighed is below the lower limit
- **NG** Beep when the item being weighed is outside the set range
- **High** Beep when the weight exceeds the upper limit
- **OFF** Audible signal deactivated

11.1 Tolerance check for target number of items

Select target count mode:

Press and hold  to display the selected mode

Piece Weight



Check pcs – Tolerance check for target item number

Press



Piece Weight



Check off – Tolerance check disabled

Press



Piece Weight



Check net -: Tolerance check for target weight

Set limit values:

Set upper limit for target piece count:

⇒ Press , "Hi Cnt" appears:

⇒ Enter the upper limit using the numeric keys, e.g.: 70 pcs

⇒ Press 

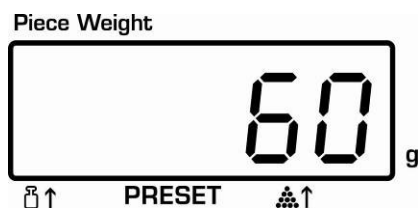
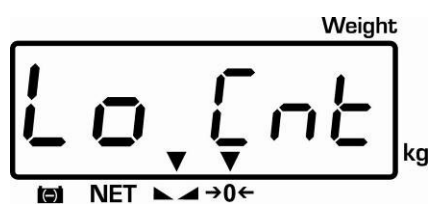
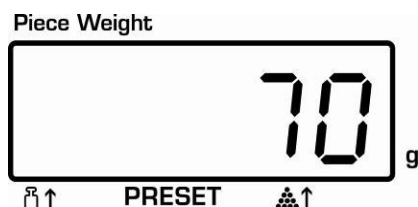
"Lo Cnt" appears:

Set the lower limit for the target number of pieces:

⇒ Enter the lower limit using the numeric keys, e.g.: 60 Pcs

⇒ Press 

⇒ Press  repeatedly until the scale is in weighing mode



Start tolerance check

- ⇒ Determine the average unit weight (see section 9.1) or enter it manually (see section 9.2).
- ⇒ Place the item to be weighed on the platform, wait until the acoustic signal sounds, depending on the setting in the “F10” menu (see section 12.1, non-verified models only).

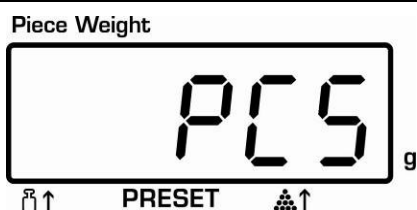
Deleting limit values:

- ⇒ Enter “0” for all limit values and confirm with the TARE key.

11.2 Tolerance check to target weight

Select target weight mode:

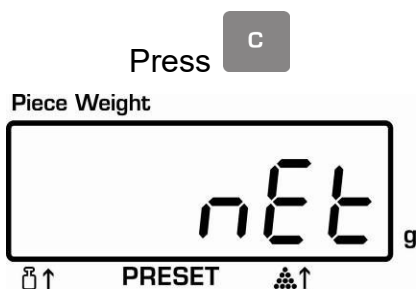
Press and hold  to display the selected mode



Check pcs - Tolerance check for target item number



Check off – Tolerance control switched off



Check net -: Tolerance check for target weight

Select target weight mode:

Press and hold  to select the desired tolerance weighing mode:

- **Check off** – Tolerance control switched off
- **Check pcs** - Tolerance check for target item number
- **Check net** - Tolerance check for target weight

Piece Weight



Set limit values:

Set the upper limit for the target weight:

⇒ Press  repeatedly and confirm with the TARE key until “Hi nEt” appears:

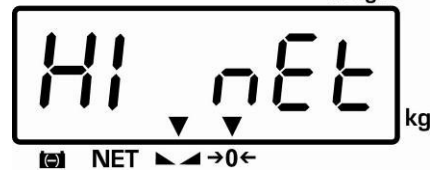
⇒ Enter the upper limit using the numeric keys, e.g.: 100 g

⇒ Confirm within 5 seconds:



⇒ “Lo nEt” appears:

Weight



Piece Weight

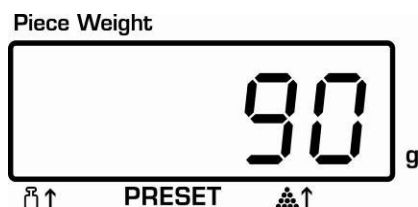


Set the lower limit for the target weight:

- ⇒ Enter the lower limit using the numeric keys, e.g.: 90 g
- ⇒ Confirm within 5 seconds:



Press  repeatedly until the scale is in weighing mode



Start tolerance check

- ⇒ Place the item to be weighed on the scale, wait until the acoustic signal sounds, depending on the setting in the "F10" menu (see section 12.1, non-verified models only).

Delete limit values:

- ⇒ Enter "0" for all limit values and confirm with the TARE key.

12 Menu (non-verifiable models)

Accessing the menu:

⇒ Switch on the scale and press the TARE key during the self-test

⇒ Enter the password using the numeric keys:

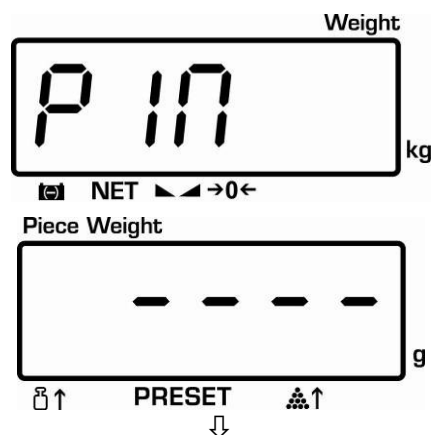
Either

- default password "0000"

or

- personal password, enter via function [F6 Pin] see section 12.1

⇒ Confirm with the **TARE** key



Select function:

⇒ Use  to select the individual menu items with their current settings one by one.

Change/save settings:

⇒ Confirm the selected function with . Use  to select the desired setting and confirm with  or discard with .

Exit menu:

⇒ Press  to return the scale to weighing mode.

12.1 Menu overview:

Menu block Main menu	Menu item Submenu	Available settings / Explanation				
F1 CAL		Adjustment				
F2 di	d 6000*	Resolution				
	d 3000					
	d 60000					
	d 30000					
	d 15000					
F3 Cnt		A/D value				
F4 AU Totalisation mode and data output	AU on* Automatic totalisation mode	b9600*, b600, b1200, b2400, b4800	LP 50	EnG	CHi	not document- ed
			tP	Default printer setting		
	P ASt	b9600*, b600, b1200, b2400, b4800	EnG	CHi		Remote control commands
	P Cont	b9600*, b600, b1200, b2400, b4800	EnG	CHi		Continuous data output
	AU off Manual totalisation mode	b9600*, b600, b1200, b2400, b4800	LP 50	EnG	CHi	not document- ed
			tP	Default printer setting		
F5 AZn Zero range	2d*	Automatic zeroing, selectable between 0.5d, 1d, 2d and 4d				
	4d					
	0.5d					
	1d					
F6 Pin Password	PIN 1*	Enter new password				
	PIN 2	Confirm new password				
F7 SPd Display speed	SPd 7.5*	not documented				
	SPd 15					
	SPd 30					
	SPd 60					
F8 oFF Auto Off	oF 0*	Automatic switch-off off				
	oF 3	Automatic switch-off after 3 mins				
	oF 5	Automatic switch-off after 5 mins				
	oF 15	Automatic switch-off after 15 mins				
	oF 30	Automatic switch-off after 30 mins				

F9 Gru Gravity		not documented
F10 bEP Acoustic signal	ok*	Audible signal when the weight of the item being weighed is within the set range
	Low	Beep when the weight is below the lower limit
	nG	Beep when the item being weighed is outside the set range
	HiGH	Beep when the weight is above the upper limit
	oFF	Audible signal deactivated
F11 rSt	Reset to factory settings	

* Factory setting

13 RS 232 C data output

The scale is equipped with an RS 232C interface as standard. Depending on the settings in the menu, the weighing data can be output via the interface either automatically or by pressing the PRINT key.

Data transmission is asynchronous in ASCII code.

The following conditions must be met for communication between the scale and the printer:

- Connect the scale to the printer's interface using a suitable cable. Fault-free operation is only guaranteed with the appropriate KERN interface cable.
- The communication parameters (baud rate, bits and parity) of the scale and printer must match; see section 12.1, menu block "F4 AU".

13.1 Technical data

Connection	D-Sub 9-pin socket Pin 2 Output Pin 3 Input Pin 5 Signal ground
Baud rate	Selectable 600/1200/2400/4800/9600*
Parity	8 bits, no parity

* = Factory setting

	9-pin D-Sub socket
RS-232	
GND	Pin 5
RXD	Pin 3
TXD	Pin 2

	9-pin D-Sub socket
Signal Light Connector	
1. VB	Pin 1
2. LOW	Pin 7
3. OK	Pin 6
4. HI	Pin 8
5. BUZZ	Pin 9
6. GND	Pin 5

13.2 Remote control commands

Remote control commands are sent from the remote control unit to the scale as ASCII code. Once the scale has received the commands, it sends the following data.

Please note that the following remote control commands must be sent without a subsequent CR LF.

T	Tare the weighing plate
Z	Zero
C	Clear
P	Send quantity
S	Send fixed value
W	Send unstable value

14 Maintenance, servicing, disposal

14.1 Cleaning

Please disconnect the device from the mains supply before cleaning.

Please do not use aggressive cleaning agents (solvents or similar), but only a cloth moistened with mild soapy water. Ensure that no liquid enters the device and wipe it down with a dry, soft cloth.

Loose sample residues/powder can be carefully removed with a brush or handheld vacuum cleaner.

Remove any spilled weighing material immediately.

14.2 Maintenance

The instrument must only be opened by trained service technicians authorised by KERN.

Disconnect from the mains before opening.

14.3 Disposal

The operator must dispose of the packaging and the device in accordance with the applicable national or regional legislation at the user's location.

15 Quick Troubleshooting Guide

If a fault occurs during the programme, the scale should be switched off briefly and disconnected from the mains supply. The weighing process must then be restarted from the beginning.

Fault	Possible cause
The weight display is not lit.	• The scale is not switched on.
	• The mains connection is interrupted (mains cable not plugged in/faulty).
	• The mains power has failed.
	• Batteries inserted incorrectly or empty
	• No batteries inserted
The weight display keeps changing.	• Draughts/air movements
	• Vibrations from the table/floor
	• The weighing plate is in contact with foreign objects. • Electromagnetic fields/static charge (choose a different location/switch off the interfering device if possible)
The weighing result is obviously incorrect.	• The scale display is not at zero.
	• The calibration is no longer correct.
	• There are significant temperature fluctuations. • Electromagnetic fields/static charge (choose a different location/switch off interfering equipment if possible)

16 Error messages

Error message	Description
Err 4	Zero range exceeded
Err 5	Invalid input
Err 6	Damaged electronics
Err 9	Weighing result unstable

If other error messages appear, switch the scale off and on again. If the error message persists, contact the manufacturer.