KERN & Sohn GmbH
Ziegelei 1
D-72336 Balingen
E-Mail: info@kern-sohn.com
Tel: +49-[0]7433- 9933-0
Fax: +49-[0]7433-9933-149
Internet: www.kern-sohn.com

Operating instructions
Finished packaging regulations scale

KERN FKTF

Version 1.2
11/2015
GB

FKTF-BA-e-1512

GB

KERN FKTF

Version 1.2 11/2015

Operating Instructions

Finished packaging regulations scale

English

Contents

1 Technical Data

KERN	FKTF 3K0.5LM	FKTF 6K1LM	FKTF 12K2LM
Accuracy class	III	III	III
Readability (d)	0.5 g	1 g	2 g
Verification value (e)	0.5 g	1 g	2 g
Weighing range (max)	3.000 g	6.000 g	12.000 g
Minimum load (Min)	10 g	20 g	40 g
Taring range (subtractive)	3.000 g	6.000 g	12.000 g
Reproducibility	0,5 g	0,5 g	1 g
Linearity	±0,5 g	±0,5 g	±1 g
Adjustment points	1 / 2 / 3 kg	2 / 5 / 6 kg	2 / 5 / 10 / 12 kg
Recommended adjusting weight M1 (not supplied)	3 kg	5 kg	10 kg
Humidity of air	max. 80% rel. (non-condensing)		
Stabilization time (typical)	3 sec.		
Allowable ambient temperature	+10 °C ... + 40 °C		
Warm-up time	2 h		
Housing (B x D x H) mm	350 x 390 x 120		
Vibration filter	yes		
Weighing plate stainless steel mm	340 x 240		
Units	see menu		
Weight kg (net)	6,5		
Data interface	yes (RS232)		
Article regular places	400		
Number of operators	40		
Battery operation with 6 x 1.5 V, size "C"	yes		

English

KERN	FKTF 30K5LM	FKTF 60K10LM
Accuracy class	III	III
Readability (d)	5 g	10 g
Verification value (e)	5 g	10 g
Weighing range (max)	30.000 g	60.000 g
Minimum load (Min)	100 g	200 g
Taring range (subtractive)	30.000 g	60.000 g
Reproducibility	2,5 g	5 g
Linearity	±2,5 g	±5 g
Adjustment points	10 / 20 / 30 kg	20 / 50 / 60 kg
Recommended adjusting weight M1 (not supplied)	20 kg + 10 kg	50 kg
Humidity of air	max. 80% rel. (non-condensing)	
Stabilization time (typical)	3 sec.	
Allowable ambient temperature	+10 °C ... + 40 °C	
Warm-up time	2 h	
Housing (B x D x H) mm	350 x 390 x 120	
Vibration filter	yes	
Weighing plate stainless steel mm	340 x 240	
Units	see menu	
Weight kg (net)	6,5	
Data interface	yes (RS232)	
Article regular places	400	
Number of operators	40	
Battery operation with 6 x 1.5 V, size "C"	yes	

Packaged Goods Regulation (PGR/FPVO). To weighing scales specially designed for packaged goods applies

§ 22 of the Packaged Goods Regulation PGR. This paragraph says:

(1) Commercially produced, packaged goods labelled by weight or volume of the same nominal filling quantity must be produced in such as way that the filling quantity at the point of production

1. on average does not drop below the nominal filling quantity and

2. does not exceed the values for negative deviation from the nominal filling quantity stipulated in section 3.

(2) Packaged goods labelled by weight or volume of the same nominal weight must be brought into the territory covered by this regulation only if the filling quantity at the point of production

1. on average does not drop below the nominal filling quantity and

2. does not exceed the values for negative deviation from the nominal filling quantity stipulated in section 3.

(3) The allowable minus deviations are as follows:

Nominal filling quantity Q_N in g or ml	Admissible minus deviation	
	in % of Q_N	in g or ml
5 to 50	9	-
50 to 100	-	4.5
100 to 200	4.5	-
200 to 300	-	9
300 to 500	3	-
500 to 1,000	-	15
1,000 to 10,000	1.5	-

When applying this table, any values for admissible minus deviations calculated in weight or volume units that are stated in percent should always be rounded up to 0.1 gram or 0.1 millilitre. Minus deviations should not exceed 2 per cent of the packaged goods.

(4) Packaged goods labelled by weight or volume of the same nominal filling quantity may only be launched commercially if the minus deviation from the nominal filling quantity does not exceed double the amount of the values stipulated on the table under section 3.

These rules give the manufacturers of packaged goods a clear standard for production control in manufacture and the consumer confidence that such products actually contain the filling quantity labelled on the package by the manufacturer.

English

Packaged goods manufactured and tested according to the rules stipulated by the Packaged Goods Regulation bear the following marking on their label: ℮

Weighing scales to be used in packaged goods control must have type approval according to
category III combined with a valid verification.

The choice of a non-automatic weighing scale should be on the one hand according to the required maximum weight and on the other hand the maximum admissible verification value (e) for the nominal filling quantity to be tested: According to the admissible maximum number of errors for the verified weighed result (e):

Nominal filling quantity QN for packaged goods in g or ml	Maximum admissible verification value in g
Less than 10	0.1
For 10 to less than 50	0.2
Nominal filling quantity QN For packaged goods in g or ml	Maximum admissible verification value in g
For 50 to less than 150	0.5
For 150 to less than 500	1.0
For 500 to less than 2500	2.0
For 2500 and more	5.0

Finally, it should be noted that shorter re-verification periods are applied in many European States for weighing scales used in package controlling as opposed to those for regular weighing scales of verification category III. Usually this is every year or every two years.

2 Basic Information (General)

It is absolutely necessary that you read and understand the operating instructions prior to installation and commissioning and follow the instructions during the process!

2.1 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 plate. As soon as a stable weighing value is reached the weighing value can be read.

2.2 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“ in the balance (Example: Slowly draining fluids from a container on the balance.).
Do not leave permanent load on the weighing plate. 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 damage 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.

2.3 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 and damage caused by media, liquids
- natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

2.4 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. Our accredited DKD calibration laboratory offers fast and inexpensive adjustment for test weights and weighing balances (reset to national normal weight).

3 Basic Safety Precautions

3.1 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.

3.2 Personnel training

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

4 Transportation & Storage

4.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.
In case of visible damage have the damage verified by the messenger's signature. Do not alter goods or packaging and do not remove any parts of the delivery. Report the damage immediately (within 24 hours) in writing to the parcel service.

4.2 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.

5 Unpacking, Setup and Commissioning

5.1 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.

Therefore, observe the following for the installation site:

- 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, vapors 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 charging of the material to be weighed, weighing container and windshield.

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.

5.2 Unpacking

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

5.3 Mains connection

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

5.4 Battery operation

⇨ To insert the batteries (6 x 1.5 V) remove the battery compartment cover. Remove it with the help of a coin.
⇨ In the each battery tube insert three batteries in the same polarity sense.
⇨ Screw down again the battery cover.

English

To save the battery, the background illumination can be switched off (G10).
If the battery voltage drops below a critical value for operational safety, turns off the scale.

5.5 Connection of peripheral devices

Before connecting or disconnecting of additional devices (printer, PC) to the data interface, always disconnect the balance from the power supply. With your balance, only use accessories and peripheral devices by KERN, as they are ideally tuned to your balance.

5.6 Initial Commissioning

A warming up time of 2 hours after switching on stabilizes the measuring values.
The accuracy of the balance depends on the local acceleration of gravity.
Strictly observe hints in chapter “Adjustment”.

5.7 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 during the initial start-up, after change in location and variation of surrounding temperature. To receive accurate measuring values it is also recommended to adjust the balance periodically in weighing operation.

5.8 Adjustment

With an adjustment weight, the weighing accuracy can be checked and re-adjusted at any time.

Attention: In the verified balances the adjustment is not possible.

Procedure when adjusting:
Observe stable environmental conditions. A short warming up time of ca. 15 minutes is recommended for stabilization.

5.9 Verification

General introduction:

According to EU directive 90/384/EEC balances must be 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 purposes
d) For manufacturing final packages

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

Verification instructions

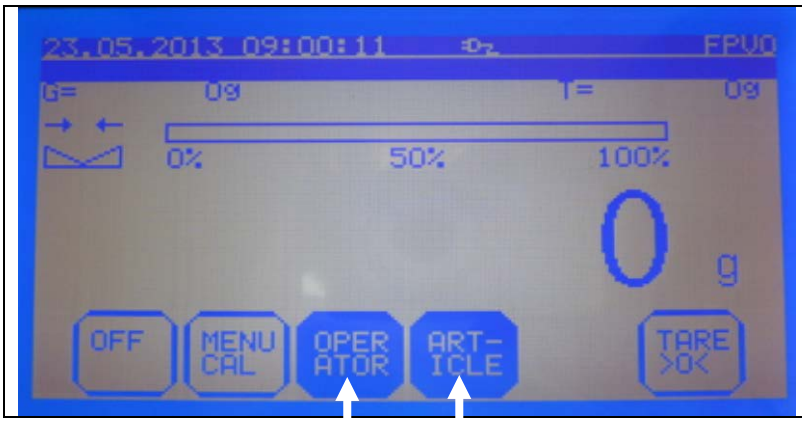
An EU type approval exists for balances described in their technical data as verifiable. If a balance is used where obligation to verify exists as described above, it must verified and re-verified in regular intervals.
Re-verification of a balance is carried out according to the respective national regulations. 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!

6 Operation

6.1 Start the scale and turn on the screen

Start scale by touching the touch panel

Start-up screen:

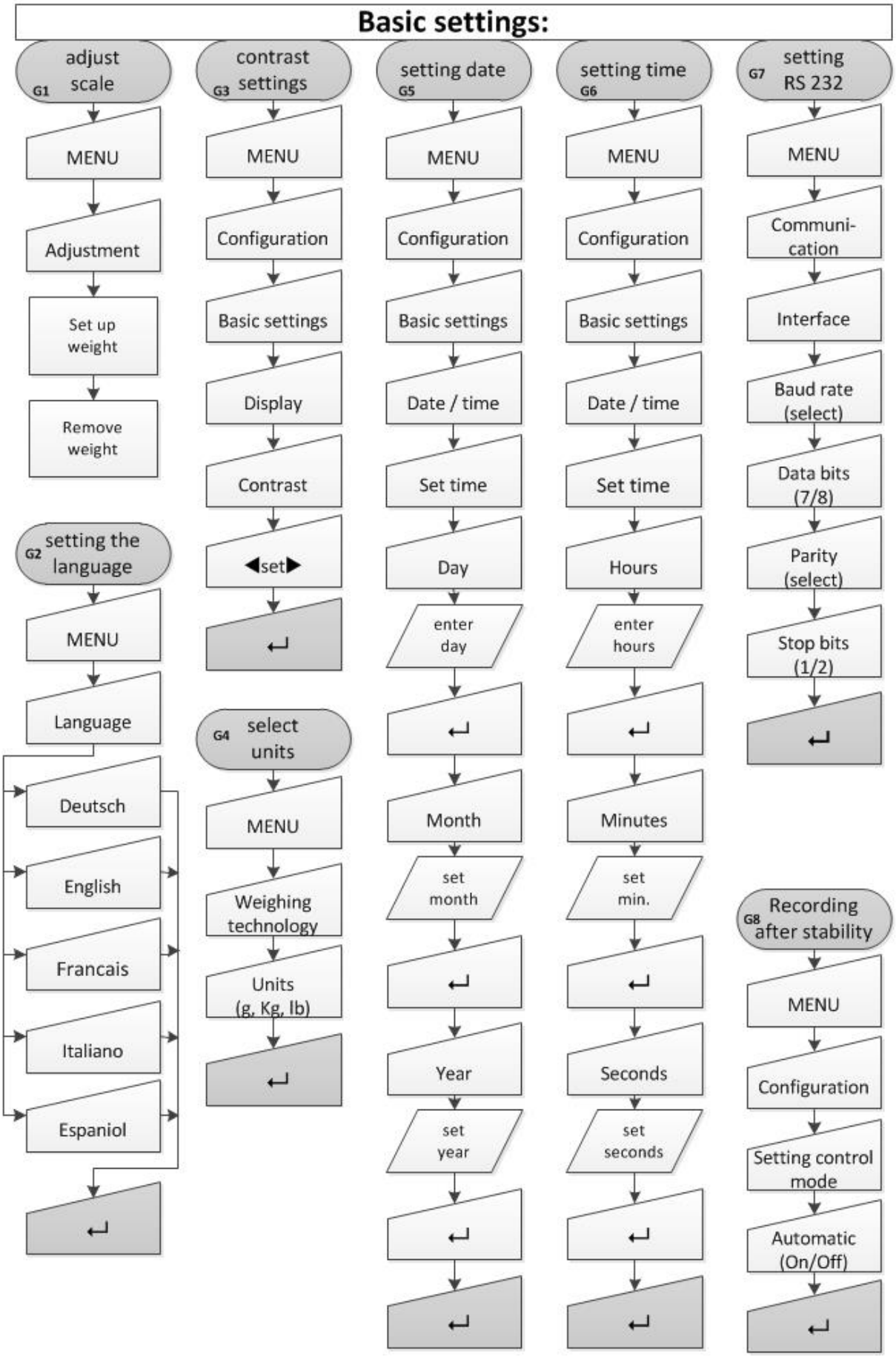


After contact the Touches and start up the scale the following screen appears.

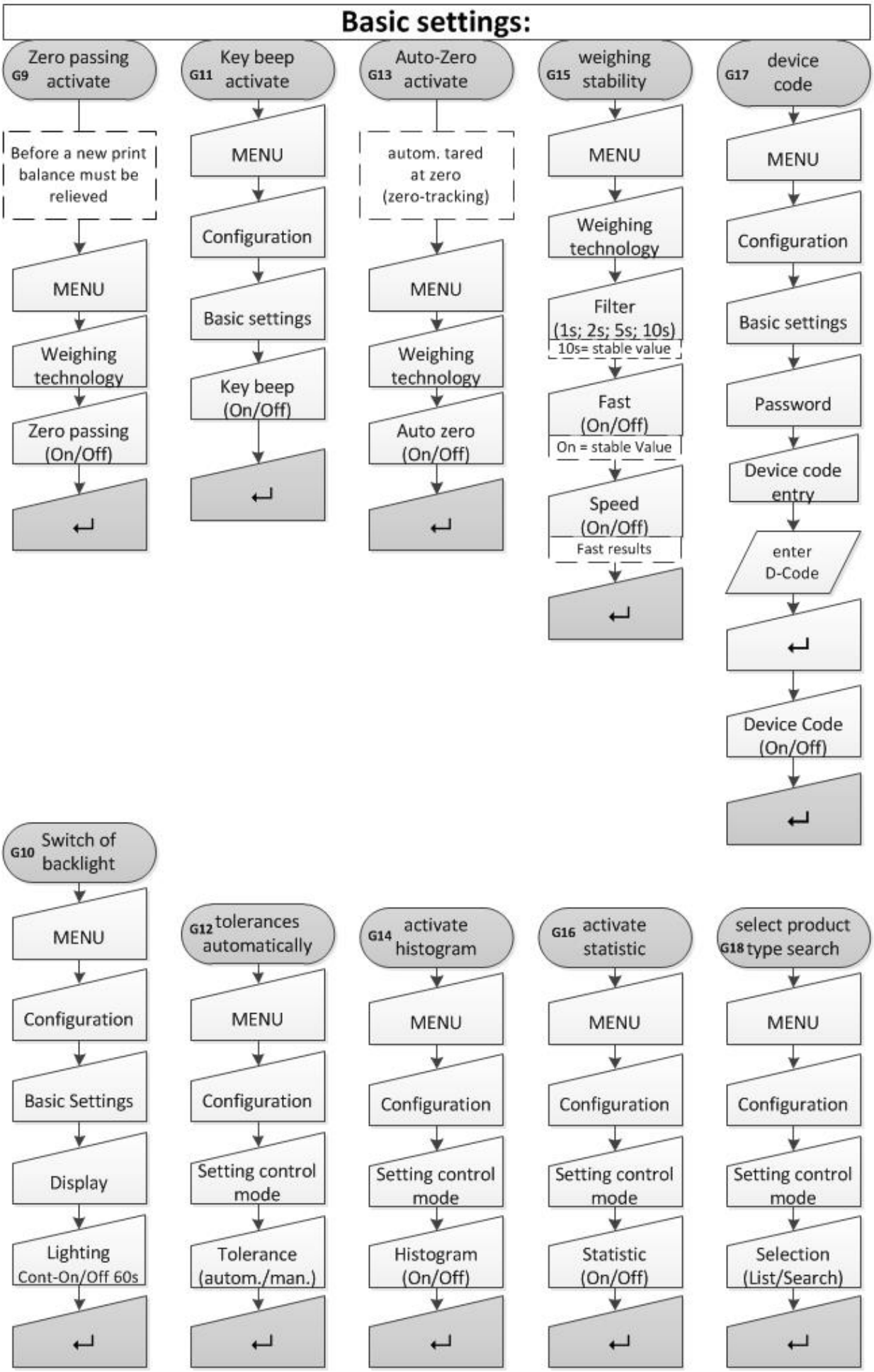
To start the measurement it must necessarily be given the Article and the Operator.

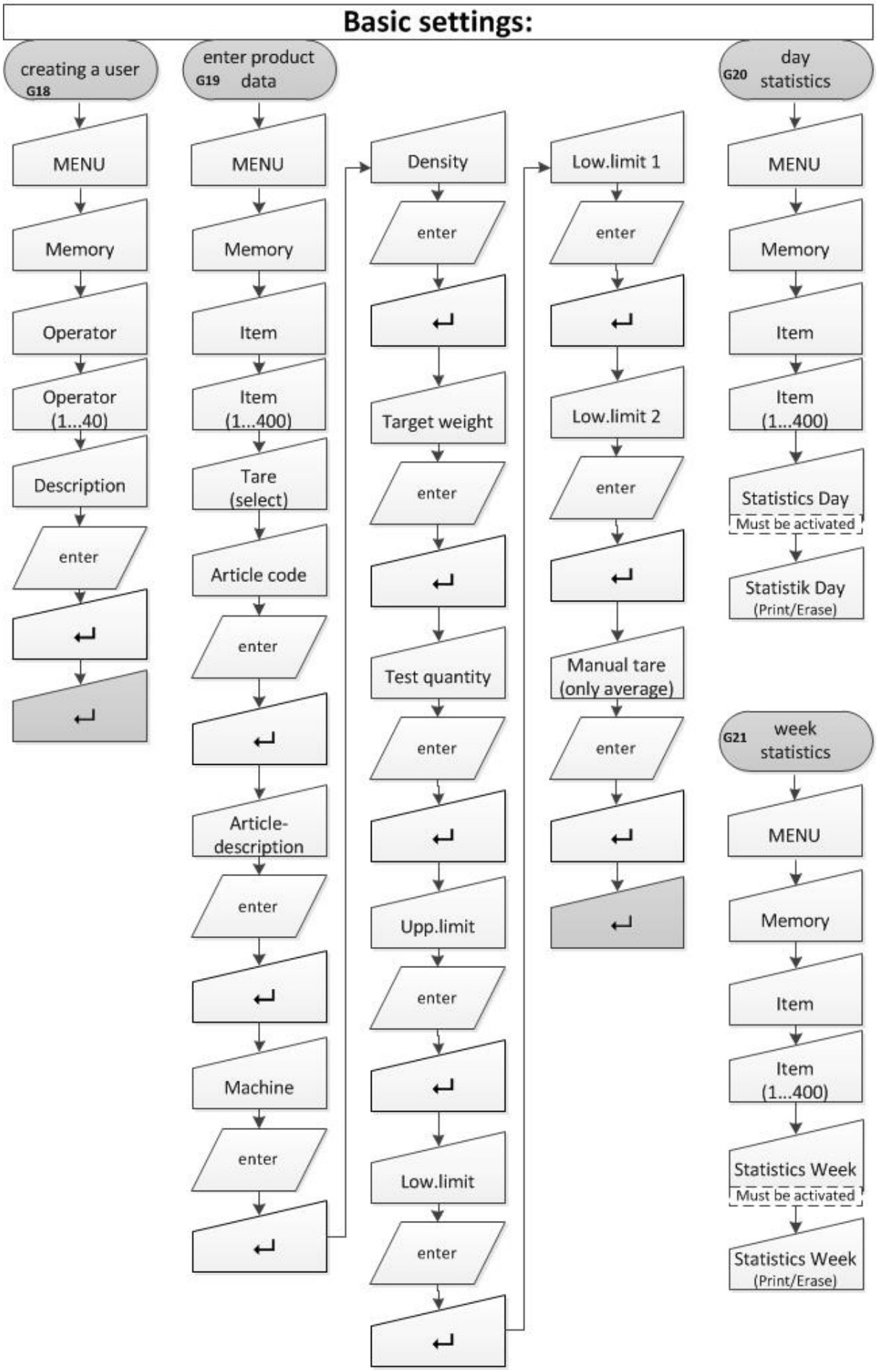
Please press the reverse button.

English


Basic settings:
G1 adjust scale
MENU
Adjustment
Set up weight
Remove weight
G2 setting the language
MENU
Language
Deutsch
English
Francais
Italiano
Espaniol
G3 contrast settings
MENU
Configuration
Basic settings
Display
Contrast
◀set▶
G4 select units
MENU
Weighing technology
Units (g, Kg, lb)
G5 setting date
MENU
Configuration
Basic settings
Date / time
Set time
Day
enter day
Month
set month
Year
set year
G6 setting time
MENU
Configuration
Basic settings
Date / time
Set time
Hours
enter hours
Minutes
set min.
Seconds
set seconds
G7 setting RS 232
MENU
Communi-cation
Interface
Baud rate (select)
Data bits (7/8)
Parity (select)
Stop bits (1/2)
G8 Recording after stability
MENU
Configuration
Setting control mode
Automatic (On/Off)

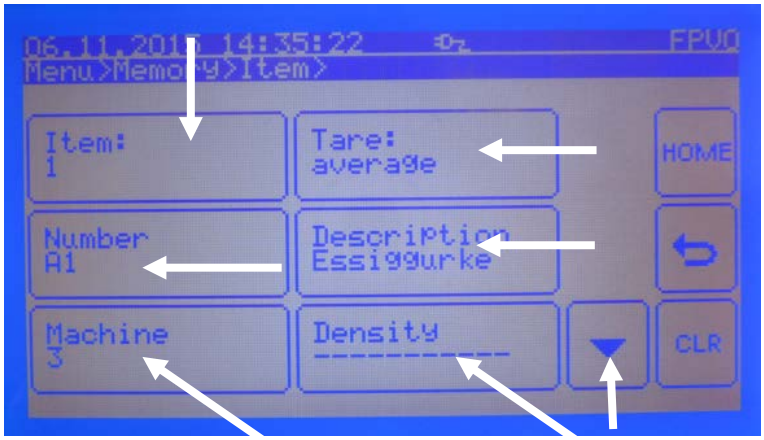
English


Basic settings:
G9 Zero passing activate
Before a new print balance must be relieved
MENU
Weighing technology
Zero passing (On/Off)
G11 Key beep activate
MENU
Configuration
Basic settings
Key beep (On/Off)
G13 Auto-Zero activate
autom. tared at zero (zero-tracking)
MENU
Weighing technology
Auto zero (On/Off)
G15 weighing stability
MENU
Weighing technology
Filter (1s; 2s; 5s; 10s)
10s= stable value
Fast (On/Off)
On = stable Value
Speed (On/Off)
Fast results
G17 device code
MENU
Configuration
Basic settings
Password
Device code entry
enter D-Code
Device Code (On/Off)
G10 Switch of backlight
MENU
Configuration
Basic Settings
Display
Lighting
Cont-On/Off 60s
G12 tolerances automatically
MENU
Configuration
Setting control mode
Tolerance (autom./man.)
G14 activate histogram
MENU
Configuration
Setting control mode
Histogram (On/Off)
G16 activate statistic
MENU
Configuration
Setting control mode
Statistic (On/Off)
G18 select product type search
MENU
Configuration
Setting control mode
Selection (List/Search)


Basic settings:
creating a user
G18
MENU
Memory
Operator
Operator (1...40)
Description
enter
enter product data
G19
MENU
Memory
Item
Item (1...400)
Tare (select)
Article code
enter
Article-description
enter
Machine
enter
Density
enter
Target weight
enter
Test quantity
enter
Upp.limit
enter
Low.limit
enter
Low.limit 1
enter
Low.limit 2
enter
Manual tare (only average)
enter
day statistics
G20
MENU
Memory
Item
Item (1...400)
Statistics Day
Must be activated
Statistik Day
(Print/Erase)
week statistics
G21
MENU
Memory
Item
Item (1...400)
Statistics Week
Must be activated
Statistics Week
(Print/Erase)

English

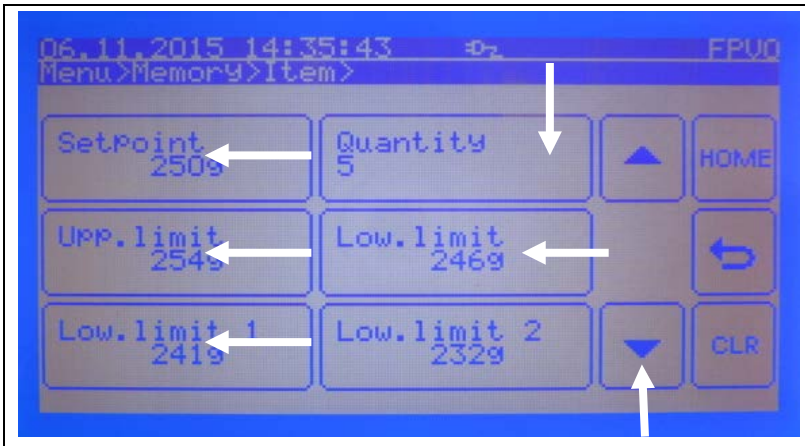
6.2 Creating products with desired specifications

	You can enter the specific values of each item under MENU / Memory / Item / Item*.
	On the first page of the article the following data can be entered: Item: memory location number Number: article number or code Machine: enter the machine number Tara: weighing type (Tara previous, Tara afterwards, Tara average) Description: product name Density: density value of the article You can use the arrow key to scroll to the second page.

Tare „average“: The single packages differ only a little.

Tare „previous“: The single packages differs much from each other.

Tare „afterwards“: Setting to check packed articles.



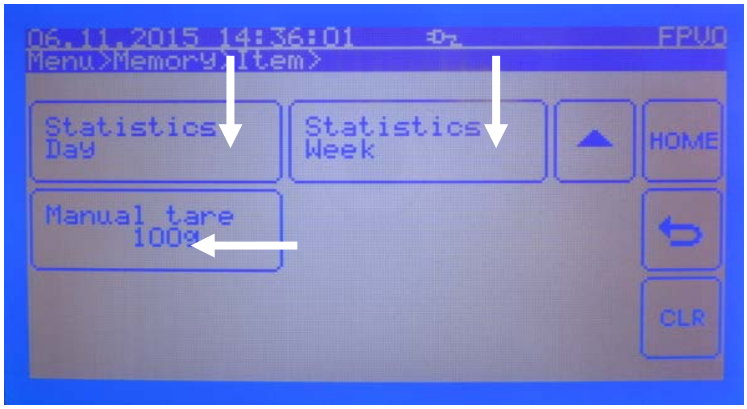
Here, the tolerance data as set-point, upper limit, lower limit, lower limit 1 and lower limit 2 can be entered.

Under "Quantity", the number of the tested measurement objects can be entered.

The arrow key can be used to scroll to the previous page or to the next page.

Caution:

The automatic limit value calculation is active if under MENU / Configuration / Setting control mode / Tolerance the "tolerance" is set to automatically and the verification switch is active. After entering a setpoint the ohter limits are automatically calculated according to the statutory FPVO regulation.



On page 3 of the item you will get insight into the respective daily and weekly statistics. If desired, these can be printed.

Caution:
The daily and weekly statistics are only visible if you have been activated under MENU / Configuration / Setting control mode / Statistic.

With "Manual tare" you can enter the desired automatic tare value.

Generally:

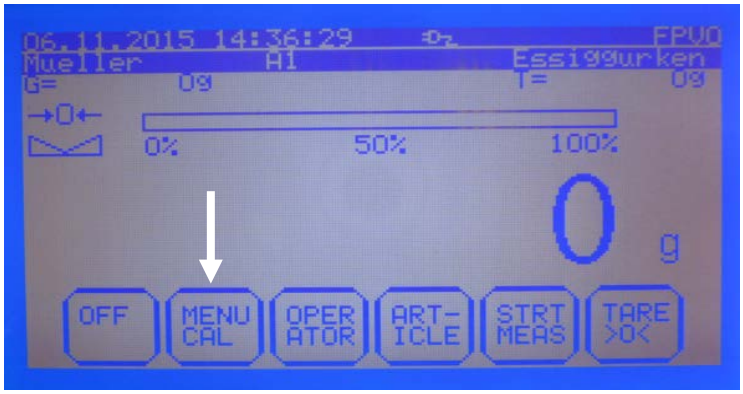
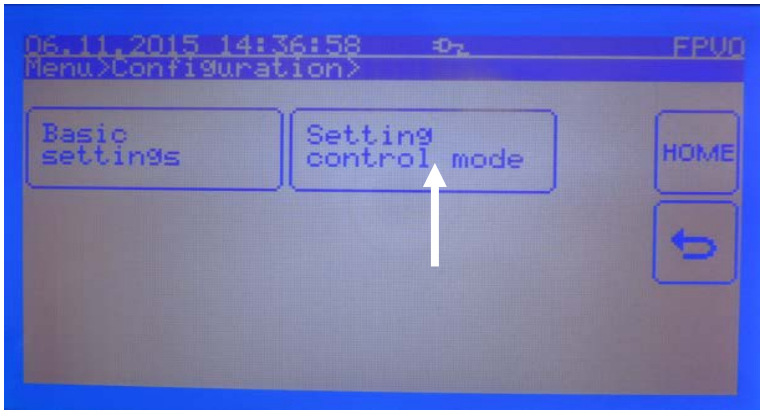
By clicking the "HOME" button you get back to the start-up screen.

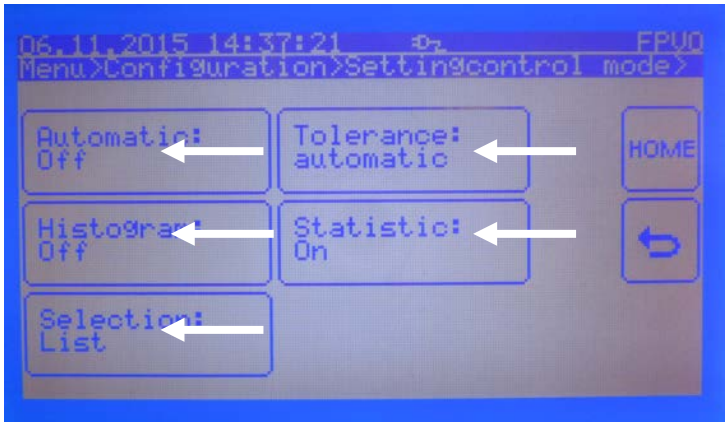
The "back arrow" key allows one page back.

With "CLR" all product data will be deleted.

English

6.3 Operating mode settings:

	Please press on the start-up screen the "MENU CAL" button.
	Then select in the menu the "Configuration" button.
	Now, "Setting control mode" appears. This also choose.



Under Setting control mode, then you can adjust various settings:

Automatic:
Automatic mode can be enabled and disabled.

Tolerance: When "automatic" is activated, the tolerances are automatically calculated according to the statutory FPVO regulation.
The verification switch must then be activated in this case!

Histogram:
The histogram printout will be activated and displayed in the respective product data.

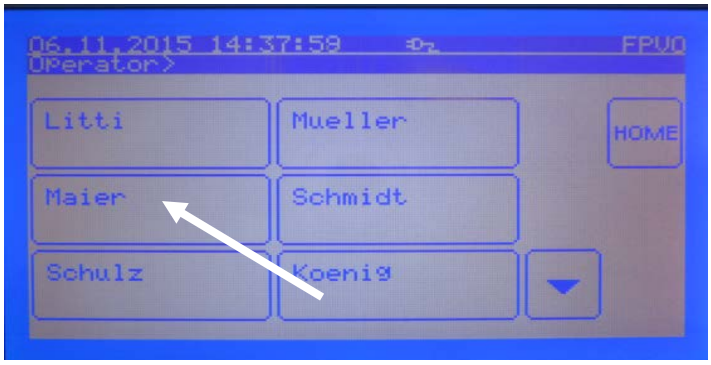
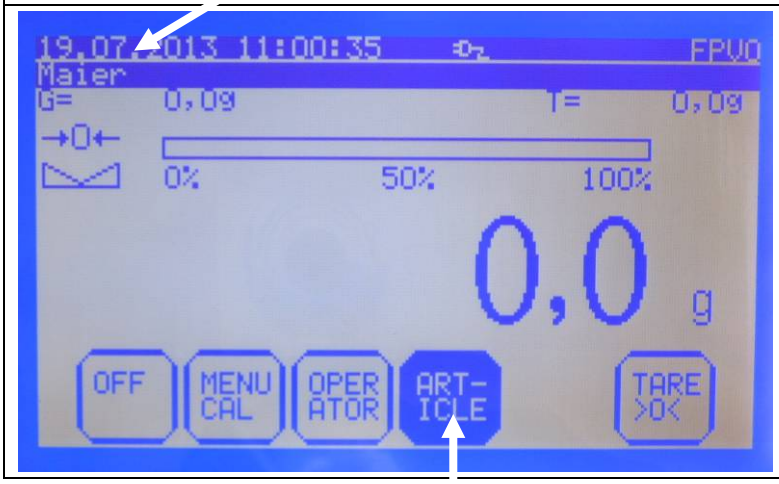
Statistic:
The statistic printout will be activated and displayed in the respective product data.

Selection:
Under Selection you can change the view of the article. With “list”, the Items in "ARTICLE" on the start-up screen are displayed with a field of activity.
With "search" you can search the articles via the keyboard.

English

6.4 Select Operator/Article

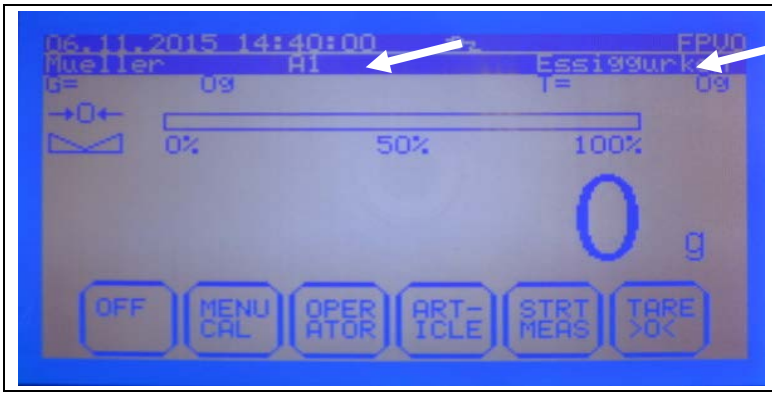
Select Operator:

	After pressing the operator key select fields will appear for authorized operators. Select the current operator. If no operator is available, they must be re-entered via MENU / Memory / Operator / Description.
	Now in the second information row the selected user appears (see arrow). Now press the ARTICLE button.

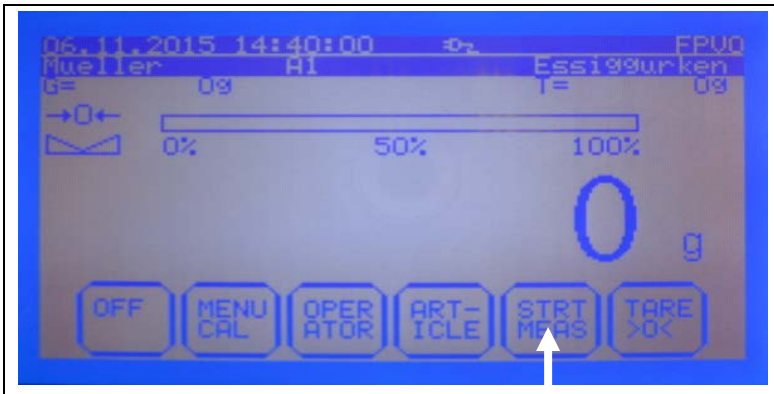
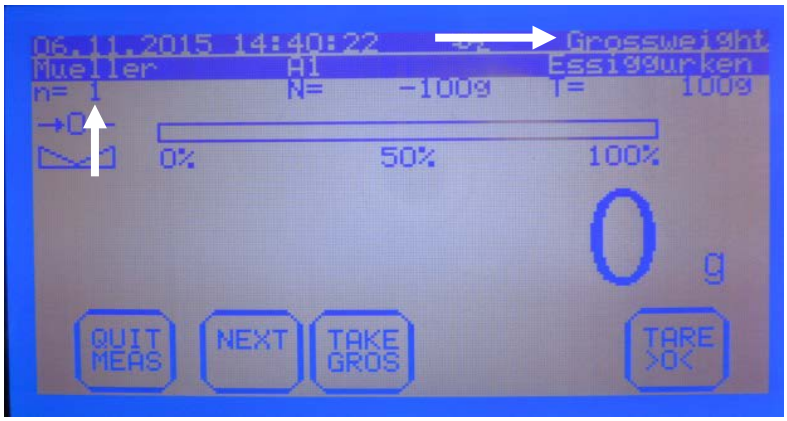
Select Article:

	Select from the displayed article selection fields the right item by pressing. Are no items available, they must be re-entered via MENU / Memory / Item / Item*.

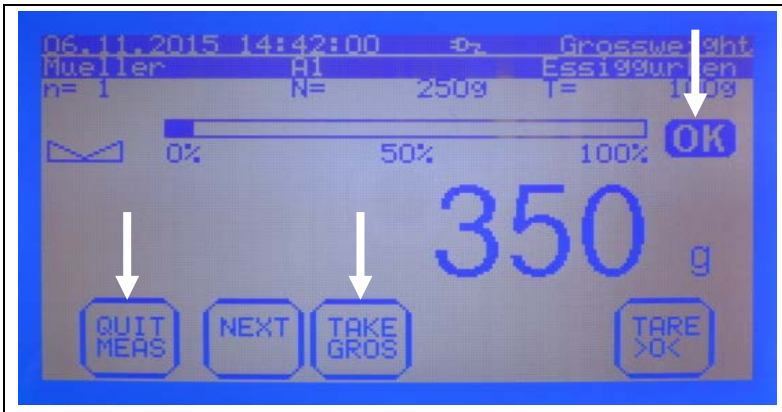
English

	Now in the first line of information the selected Item and the Item code appears (see arrows).

6.5 Start the measurement

	To start the measurement, please press STRT / MEAS key The different types of measurement (average Tara, Tara previous, Tara afterwards) can be selected in each article. In this example, "Tara average"
	The weighing mode is displayed at the top right. Well the first target must be placed.

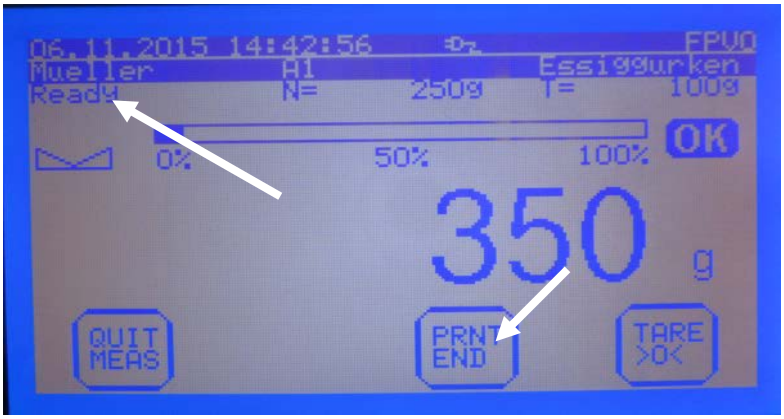
English



After the first measurement object has been placed it will be confirmed with TAKE GROS. The balance jumps automatically to the second target.

At any time you can stop the measurement with QUIT MEAS.

OK = measured value is within the tolerance (between TU and TO)
+ = passed the upper limit (TO)
- = below the lower limit (TU)

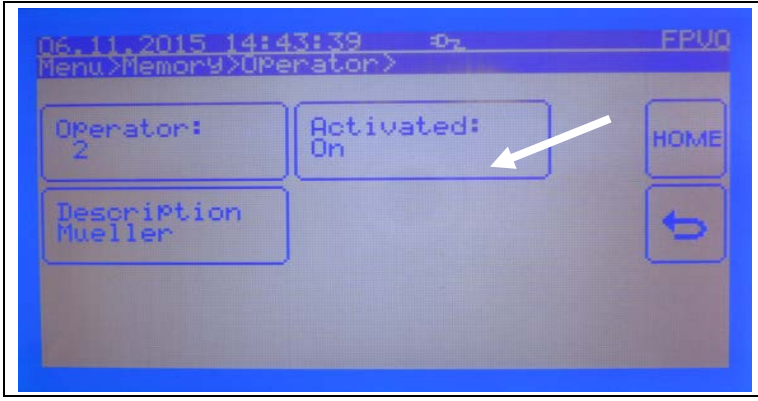


After the last measurement object the scale displays "Ready" and the series of measurements can be printed with PRNT END.

By pressing, the scale also jumps back to the start screen.

The measured values are stored for the daily and weekly statistics, if they are activated under MENU / Configuration / Setting control mode / Statistic.

6.6 Activate operator

	Under MENU / Memory / Operator/ Activated you can activate the created operator, so that they are visible on the start-up page under "OPERATOR" and can be selected.

7 Data output RS 232 C

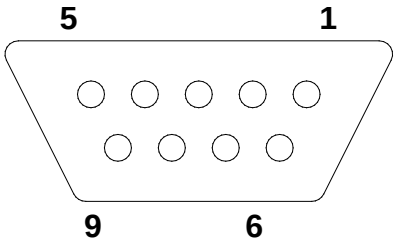
Technical data:

8-bit ASCII Code

- 1 start bit, 8 data bits, 1 stop bit, no parity bit
- Baud rate selectable from 2400, 4800, 9600 Baud (factory setting) and 19200 Baud.
- Sub-D plug 9-channel required
- For operation with interface faultless operation is only ensured with the correct KERN – interface cable (max. 2m)

Pin allocation of the balance output socket (front view)

Sub-D jack 9-channel



Pin 2: Transmit data

Pin 3: Receive data

Pin 5: Signal ground

7.1 Interface RS 232C

Data output via interface RS 232C

General

The previous condition for the data transfer between balance and a peripheral device (e.g. printer, PC ...) is that the appliances are set to the same interface parameters (e.g. baud rate, parity ...).

7.1.1 Explanation of the data transfer

Each data transfer is structured as follows:

Bit.Nr.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	N	N	N	N	N	B	B	B	B	B	B	B	B	B	B	B	0	•	0	0

Bit.Nr.	21	22	23	24	25	26
	E	E	E	E	CR	LF

N	=	Numerator
B*:	=	Blank or for autotare on in zero range.
B, 0, ˙, g:	=	Blank or weighing value giving unit according to loading of the balance
E	=	Unit
CR:	=	Carriage Return
LF:	=	Line Feed

English

8 Service, maintenance, disposal

8.1 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.

8.2 Service, maintenance

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

8.3 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.

9 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.

Help:

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.
The displayed weight is permanently changing	• Draught/air movement • Table/floor vibrations • Weighing plate has contact with other objects. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing value is obviously wrong	• The display of the balance is not at zero • Adjustment is no longer correct. • 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.

English

10 Declaration of conformity

KERN & Sohn GmbH
D-72322 Balingen-Frommern *Tel: 0049-[0]7433- 9933-0*
Postfach 4052 *Fax: 0049-[0]7433-9933-149*
E-Mail: info@kern-sohn.de *Internet: www.kern-sohn.de*

Declaration of conformity

EC-Konformitätserklärung
EC- Déclaration de conformité
EC-Dichiarazione di conformità
EC- Declaração de conformidade
EC-Deklaracja zgodności

EC-Declaration of Conformity
EC-Declaración de Conformidad
EC-Conformiteitverklaring
EC- Prohlášení o shode
EC-Заявление о соответствии

D	Konformitäts-erklärung	Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.
GB	Declaration of conformity	We hereby declare that the product to which this declaration refers conforms with the following standards.
CZ	Prohlášení o shode	Tímto prohlašujeme, že výrobek, kterého se toto prohlášení týká, je v souladu s níže uvedenými normami.
E	Declaración de conformidad	Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las normas siguientes
F	Déclaration de conformité	Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.
I	Dichiarazione di conformitá	Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.
NL	Conformiteit-verklaring	Wij verklaren hiermede dat het product, waarop deze verklaring betrekking heeft, met de hierna vermelde normen overeenstemt.
P	Declaração de conformidade	Declaramos por meio da presente que o produto no qual se refere esta declaração, corresponde às normas seguintes.
PL	Deklaracja zgodności	Niniejszym oświadczamy, że produkt, którego niniejsze oświadczenie dotyczy, jest zgodny z poniższymi normami.
RUS	Заявление о соответствии	Мы заявляем, что продукт, к которому относится данная декларация, соответствует перечисленным ниже нормам.

English

Electronic Balance: KERN FKTF

EU Directive	Standards
2004/108/EC	EN 55022: 2010/AC:2011(Limit class B) EN 55011: 2009+A1:2010 (Limit class B) EN 61000-3-2: 2006-04+A1: 2009 + A2: 2009 EN 61000-3-3: 2008 EN 55024: 1998-09+A1: 2001-10+A2: 2003-10 OIML R 76-1:2006 EN 45501: 1992-10+AC: 1993-08
2006/95/EC	EN 60950
2011/65/EU	EN 50581:2012

Datum 17.07.2014
Date

Ort der Ausstellung 72336 Balingen
Place of issue

Signatur
Signature

Albert Sauter
KERN & Sohn GmbH
Geschäftsführer
Managing director