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Operating Instructions
Display devices

KERN KME/KMN-TM

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GB

KME/KMN-TM-BA-e-0915
ME-Nr. 72201618C

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1 Introduction

1.1 Safety precautions

CAUTION!

Do not use KME-TM / KMN-TM in hazardous areas!

Our product range includes special devices for hazardous areas.

CAUTION!

Use only weighing terminals with Protection Class IP65 if:

- the weighing terminal is used in wet areas
- wet cleaning is necessary
- the weighing terminal is used in a dusty environment

Even with Protection Class IP65, the weighing terminal must not be used in environments with corrosion risk.

▲ Never flood the weighing terminal or immerse it in liquid.

DANGER!

Electric shock hazard!

▲ Always pull out the mains plug before commencing any work on the weighing terminal.

DANGER!

Hazard of electric shock if the mains cable is damaged!

▲ Check the mains cable for damage regularly. Swich off the weighing terminal immediately if the mains cable is damaged.

▲ Maintain a clearance of at least 3 cm on the rear side of the weighing terminal in order to prevent the mains cable bending too much.

CAUTION!

Do not at all open the weighing terminal!

The warranty is void if this stipulation is ignored. The weighing terminal may only be opened by authorized persons.

Disposal

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), this device may not be disposed of in domestic waste. This also applies to countries outside the EU as per their specific regulations.

➜ Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

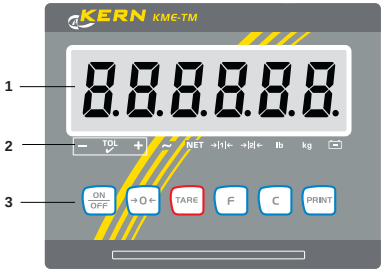
Thank you for your contribution to environmental protection.

If the weighing terminal has a rechargeable **battery**:

The battery contains heavy metals.

➜ Observe the local regulations on the disposal of environmentally hazardous materials.

Display

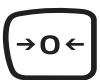


1 6-digit weight display
2 Status indicators
3 Keypad

Status indicators

LED	Meaning
Under / OK / Over alternatively **Count / PCS / APW**	Indicators for checkweighing Indicators for counting
~	Motion indicator
Net	The displayed weight value is a net weight value
>l1l< / >l2l<	Display of the current weighing range of the connected weighing platform.
lb / kg	Currently chosen weight unit
	Condition of the rechargeable battery

Keys

Key	Operating mode	Menu	Key	Operating mode	Menu
	Switching on/ off; abort	–		Function key	Back to the next higher menu item
	Zeroing	Scrolling back		Clear key	Back to the previous menu item
	Taring	Scrolling forward		Transfer key Long key-press: Calling up menu	Activating menu item Accepting selected setting

2 Putting into operation

2.1 Opening weighing terminal

CAUTION!

▲ Before opening the terminal, switch the terminal off and disconnect the power supply.

Opening KME-TM

➜ Unscrew 4 screws and lift off cover.

Opening KMN-TM

The cover of the KMN-TM is locked by 4 spring clips.

1. Insert the tip of a flat-blade screwdriver into one of the two slots located on the bottom of the cover, and gently push in towards the enclosure until a "pop" sound is heard.
2. Lift off cover.

2.2 Connecting weighing platform

1. Insert the weighing platform cable through the cable gland into the weighing terminal.
2. Connect the weighing platform cable to the 7-pin terminal strip J2 according to the following table.

Terminal	1	2	3	4	5	6	7
Assignment	+EXC	+SEN	+SIG	Shield	–SIG	–SEN	–EXC

➜ With 4-wire load cells make bridges with: +ECS and +SEN, –EXC and –SEN.

2.3 Connecting serial interface

KME-TM

With KME-TM, the interface connection is carried out as a 9-pin D-sub male connector.

➜ Plug in the 9-pin D-sub cable on the connector at the weighing terminal.

KMN-TM

With KMN-TM, the serial interface must be connected inside the weighing terminal.

1. Insert the interface cable through the cable gland into the weighing terminal.
2. Connect the interface cable to the 3-pin terminal strip J3 according to the following table.

Terminal	1	2	3
Assignment	TXD	RXD	GND

2.4 Closing the terminal

Closing KME-TM

➜ Mount the cover and tighten the 4 screws.

Closing KMN-TM

➜ Mount the cover and press on the bottom housing until the spring clips engage.

2.5 Connecting the power supply

CAUTION!

Before connecting the weighing terminal to the mains, check whether the voltage value printed on the rating plate corresponds with the local mains voltage.

▲ Do not at all connect the weighing terminal if the voltage value printed on the rating plate is different to the local mains voltage.

➜ Plug the mains plug into the socket.
After connection, the weighing terminal performs a self-test.
When the zero display appears, the weighing terminal is ready for operation.

➜ Adjust the weighing platform in order to obtain the highest possible precision (see Service Manual).

2.6 Inserting/replacing battery

NiMH rechargeable battery

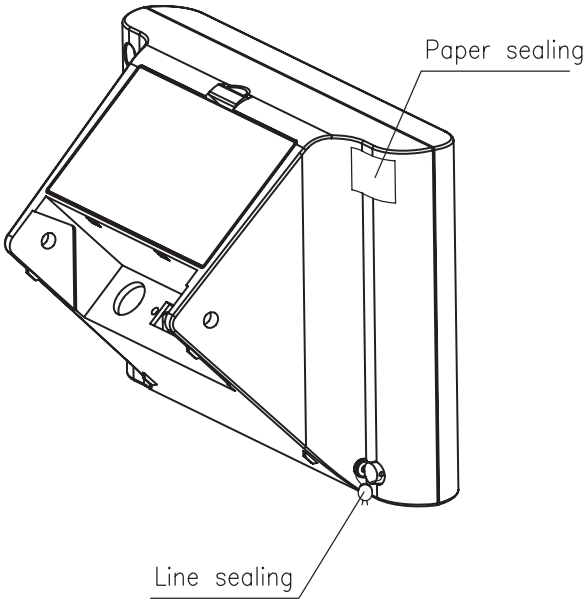
1. Open the battery case on the bottom of the terminal.
2. Undo the old rechargeable battery from the velcro strip, and disconnect plug if necessary.
3. Connect the (new) rechargeable battery to the terminal, and insert the rechargeable battery in the battery case.
4. Close the battery case.

2.7 Notes on certified weighing systems

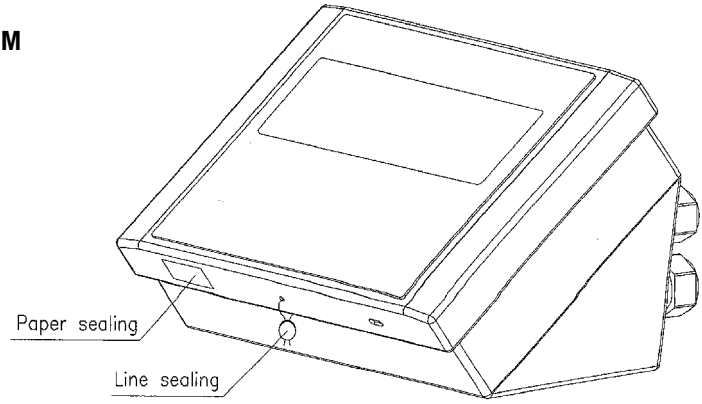
On certified weighing systems, the weighing platform connection at the weighing terminal must be sealed with a sealing wire or a sealing sticker.

Please contact your local dealer your local weights and measures authorities.

KME-TM



KMN-TM



3 Basic functions

3.1 Switching on and off

Switching on

➜ Press [ON/OFF] .

The display lights up and then shows the software number.
When the weight display appears, the weighing terminal is ready for operation.

Switching off

➜ Press and hold [ON/OFF] until **–OFF–** is displayed.

3.2 Zeroing

Zeroing corrects the influence of slight soiling on the load plate.

Setting to zero manually

1. Unload weighing platform.
2. Press [→0←] .
   The zero display appears.

Automatic zeroing

In case of non-certified weighing platforms, the automatic zero point correction can be deactivated in the supervisor menu (F1.4.1).

As standard, the zero point of the weighing platform is automatically corrected when the weighing platform is unloaded.

3.3 Simple weighing

1. Place weighing sample on the weighing platform.
2. Wait until the motion indicator goes out.
3. Read weighing result.

3.4 Weighing with tare

Taring

➜ Place the empty container on the weighing platform and press [TARE] .
The zero display and the **Net** indicator appear.

Clearing the tare

➜ Press [C] .
The **Net** indicator goes out, the gross weight appears in the display.

- If automatic clearing of the tare weight is set in the supervisor menu (`F1.5.2=On`), the tare weight is cleared automatically as soon as the weighing platform is unloaded.
- If tare interlock is set in the supervisor menu (`F1.5.3=On`), the tare weight can only be cleared when the weighing platform is unloaded.

Automatic taring

This function must be activated in the supervisor menu (`F1.5.1=On`).

➜ Place the empty container on the weighing platform.
The weight applied on the weighing platform is automatically saved as the tare weight.
The zero display and the **Net** indicator appear.

Printing/transferring data

➜ Press [PRINT] .
The display contents are printed out or transferred to a computer.

3.5 Notes on battery operation

With a fully loaded new rechargeable battery, you dispose of approx. 35 operating hours.
The  indicator shows the state of the rechargeable battery.

 constantly red	Approx. 10 % of full voltage
 slowly blinking, red	Approx. 5 % of full voltage
 fast blinking, red	Less than 5 % of full voltage, battery has to be loaded immediately
 green	Battery is loaded. Loading takes place as soon as the weighing terminal is connected to the mains.

3.6 Cleaning

DANGER!
Electric shock hazard due to ingress of moisture!

▲ Before cleaning the weighing terminal, pull out the mains plug to disconnect the unit from the power supply.

Further notes on cleaning

- Use a damp cloth.
- Do not use any acids, alkalis or strong solvents.

KME-TM

- Do not clean the weighing terminal using a high-pressure cleaning unit or under running water.
- Follow all the relevant instructions regarding cleaning intervals and permissible cleaning agents.

KMN-TM

- Do not clean the weighing terminal using a high-pressure cleaning unit.

4 Applications

Depending on the setting of F2.1 parameter in the operator menu, different applications can be activated using the [F] key.

4.1 Displaying weight values with a higher resolution

For this purpose `F2.1=MULt` must be set in the operator menu (factory setting).

➜ Press [F] .

The weight value is displayed with a higher resolution for about 20 seconds.

Note

The weight value in higher resolution cannot be printed.

4.2 Switching weight unit

For this purpose, `F2.1=Unit` must be set in the operator menu.

➜ Press [F] .

The weight value is displayed in the second weight unit.

Note

The displayed weight unit remains until it is switched again.

4.3 Check weighing

For this purpose, F2.1=OVEr and F2.2.1=CHECh (factory setting) must be set in the operator menu. In the factory setting, the check weighing function is working with upper and lower tolerances of 10 d. With parameters F2.2.3 and F2.2.4, these tolerances can be customized.

Setting target weight

1. Press [F] to activate the check weighing function.

2. Press and hold [F] until **tArGEt** and the 3 indicators **Under**, **OK** and **Over** appear.

If **F2.2.2=WEIGHt** (factory setting) is set in the operator menu, the weight display appears.

3. Put the target weight on the weighing platform and save with [F] .
   The **OK** indicator lights.

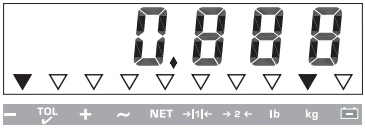
If **F2.2.2=MAnUAL** is set in the operator menu, the weight display with blinking last digit appears.

3. Enter target weight using the [TARE] , [→0←] and [F] keys and confirm with [PRINT] (see page 15).

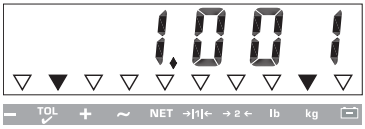
4. Save entered weight value as target weight using the [F] key.

Check weighing

Example: Target weight = 1.000 kg



- Weight less than target weight and below lower tolerance.
  The **Under** indicator lights.



- Weight within tolerances.
  The **OK** indicator lights.

- Weight more than target weight and above upper tolerance.
  The **Over** indicator lights.

Switching between checkweighing and normal weighing

➜ Press [F] to switch between checkweighing and normal weighing.

4.4 Classifying

For this purpose, F2.1=OVEr and F2.1.1=CLASS must be set in the operator menu. In the factory setting, the classifying function is working with upper and lower tolerances of 10 d. With parameters F2.2.3 and F2.2.4, these tolerances can be customized.

Setting target weight

1. Press [F] to activate the classifying function.

2. Press and hold [F] until **tArGEt** and the 3 indicators **Under**, **OK** and **Over** appear.

If **F2.2.2=WEIGHt** (factory setting) is set in the operator menu, the weight display appears.

3. Put the target weight on the weighing platform and save with [F] .
   The **OK** indicator lights.

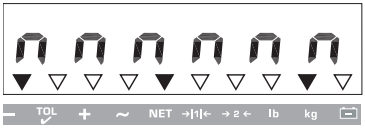
If **F2.2.2=MAnUAL** is set in the operator menu, the weight display with blinking last digit appears.

3. Enter target weight using the [TARE] , [→0←] and [F] keys and confirm with [PRINT] (see page 15).

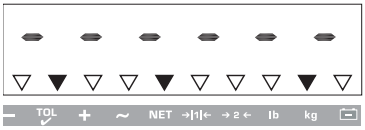
4. Save entered weight value as target weight using the [F] key.

Classifying

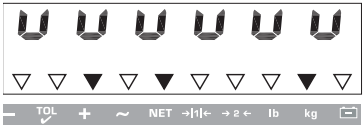
Example: Target weight = 1.000 kg



- Weight less than target weight and below lower tolerance.
  The **Under** indicator lights.



- Weight within tolerances.
  The **OK** indicator lights.



- Weight more than target weight and above upper tolerance.
  The **Over** indicator lights.

Switching between classifying and normal weighing

➜ Press [F] to switch between classifying and normal weighing.

4.5 Counting

For this purpose, `F2.1=Count` must be set in the operator menu.

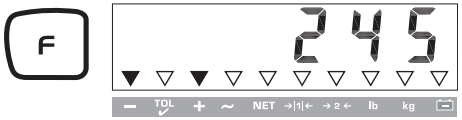
When the weighing terminal is used predominantly for counting operations, KERN & Sohn recommends to stick the delivered label (**Count**, **APW**, **PCS**) over the left 3 indicators (**Under**, **OK**, **Over**).

Determining piece weight and counting

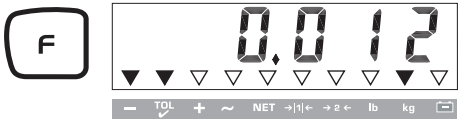
1. Press [F] to activate the counting function.
   The **Count** and **PCS** indicators light.
2. Press and hold [F] until **PCS** `...` appears.
3. Press [F] repeatedly until the desired piece number (**5**, **10**, **20**, **50**) for the determination of the piece weight appears.
4. Put the displayed number of pieces on the weighing platform and confirm with [PRINT] .
   The number of pieces is displayed and the **PCS** indicator lights.
5. Put additional pieces on the weighing platform.
   The current piece number is displayed.

Switching between number of pieces and weight

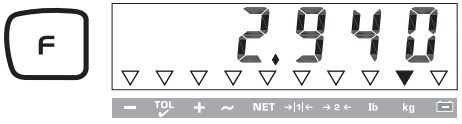
Using the [F] key, you can switch between the following values:



- Display of the number of pieces.
  The **PCS** indicator lights.



- Display of the piece weight.
  The **APW** indicator lights.



- Display of the total weight.
  None of the 3 indicators for counting is lighting.

5 Operator menu

The operator menu consists of the following blocks:

F2 – F key menu settings

F3 – terminal menu settings

F4 – communication menu settings

F6 – exit menu

5.1 Entering the operator menu

➜ In gross mode, press and hold [PRINT] until **MAStEr** appears.

➜ Enter pass word [→0←] [→0←] [→0←] and confirm with [PRINT] .
SEtUP appears.

➜ Press [PRINT] .
F2 appears.

5.2 Operating the menu

Keys and their function in the menu

[TARE] Selecting next parameter.

[→0←] Back to the previous parameter.

[PRINT] Confirming selection.

[C] Back to the previous menu item.

[F] Back to the next higher menu item.

Numeric entry

1. Press [F] for editing the displayed value.
   The (last) digit is blinking.
2. Increase the displayed digit using the [TARE] key.
   – or –
   Decrease the displayed digit using the [→0←] key.

3. When entering multi-digit numbers, use the [F] key to move the cursor one place to the left.
4. Change the digit as described in step 2.
5. Repeat steps 3 and 4 if necessary.
6. When all digits are entered, use the [PRINT] key to confirm the entry.

Note

With [C] , you can clear the entry.

5.3 F2 – F key menu

Factory settings are printed with **bold** characters.

F2.1 – Function of the F key

4 different functions can be assigned to the F key:

`MUL10` When pressing the F key, the weight value is displayed in **10 times higher resolution**

`Unit` When pressing the F key, the weight unit switches between kg and lb

`OVEr` Plus/Minus weighing
Additional settings, see F2.2

`Count` Counting
Additional settings, see F2.3

F2.2 – Plus/Minus weighing

These parameters only appear if `F2.1=OVEr` is set.

F2.2.1 – Operating mode

`CHECh` **Check weighing**

`CLASS` Classifiying

F2.2.2 – Setting the target weight

`WEIGHt` By **weighing in**

`MAnUAL` By numeric entry

F2.2.3 – Upper tolerance

After selecting the parameter, the currently set upper tolerance is displayed.

1. If necessary, use the [F] key to activate editing.

2. Change tolerance using the [→0←] , [TARE] and [F] keys.

Factory setting **10 d**

Possible settings 0 ... full load

F2.2.4 – Lower tolerance

After selecting the parameter, the currently set lower tolerance is displayed.

1. Use the [F] key to activate editing if necessary.

2. Change tolerance using the [→0←] , [TARE] and [F] keys.

Factory setting **10 d**

Possible settings 0 ... full load

F2.3 – Reference optimization

This parameter only appears if `F2.1=Count` is set.

OFF **No reference optimization**

ON Reference optimization enabled. The weighing terminal automatically determines the piece weight again when the number of parts has increased.

F2.10 – Reset F key settings

Reset all parameters F2.x(.x) to factory setting.

5.4 F3 – terminal menu

Factory settings are printed with **bold** characters.

F3.1 – Display settings

F3.1.1 – Timeout

The weighing terminal switches back to the weighing mode if during the set time no action was in the menu.

Factory setting **60 (seconds)**

Function disabled 0

Possible settings 10 ... 999 (seconds)

F3.1.2 – Brightness with battery operation

`Lo` **low brightness**

`MEd` high brightness

To save battery power, we recommend the `Lo` setting.

F3.2 – Auto power off

The weighing terminal is switched off if during the set time no action was on the weighing terminal or on the weighing platform.

Factory setting	**5 (minutes)**
Function disabled	0
Possible settings	0.5 ... 60 (minutes)

F3.3 – Battery type

This menu item is only available with weighing terminals in battery operation.

`drY` **dry battery**

`ni-MH` NiMH rechargeable battery

`LEAd-A` lead-acid rechargeable battery

F3.10 – Reset terminal settings

Reset all parameters F3.x(.x) to factory setting.

5.5 F4 – communication menu

Factory settings are printed in **bold** characters.

F4.1 – Connections

`Print` When **pressing** (PRINT) , the current display is printed

`APrint` Stable weight values are printed automatically
Additional settings: F4.2.5 and F4.2.6

`SICS` Communication via the METTLER TOLEDO **S**tandard **I**nterface **C**ommand **S**et

`Contin` Toledo continuous Mode

F4.2 – Format

F4.2.1 – Line format

`MULti` **Multi line**

`SinGLE` Single line

F4.2.2 – Print format

StAndr **Standard** (current display)

OVEr over / good / under

Count Piece number

F4.2.3 – Print language

EnG **English**

CHn Chinese

F4.2.4 – Add line feed

Factory setting **3 (lines)**

Possible settings 0 ... 9 (lines)

F4.2.5 – Auto print threshold

This menu item is only available if F4.1=APrint is set.

A stable weight value which is higher than the set value is printed automatically.

Factory setting **10 (d)**

Possible settings 0 ... max. load

F4.2.6 – Auto print reset threshold

This menu item is only available if F4.1=APrint is set.

The scale must be unloaded below the set value before a new weight value can be printed automatically.

Factory setting **10 (d)**

Possible settings 0 ... max. load

F4.3 – Parameters

F4.3.1 – Baudrate

1200

2400

4800

9600

19200

F4.3.2 – Data bits / parity

7-odd 7 bits, parity odd

7-even 7 bits, parity even

8-nonE 8 bits, no parity

F4.3.3 – Xon/Xoff

On Xon/Xoff enabled

OFF Xon/Xoff **disabled**

F4.3.4 – Checksum

On Checksum enabled

OFF Checksum **disabled**

F4.10 – Reset communication settings

Reset all parameters F4.x(.x) to factory setting.

5.6 F6 – ending menu

1. Press C .
   F6 appears.

2. To save changes: Press PRINT .
   SAVE ? appears.

   Then press PRINT again.
   – or –

   To reject changes: Press TARE .
   AbOrt appears.

   Press PRINT .

6 Supervisor menu

The supervisor menu consists of the following blocks:

F1 – scale settings

F5 – terminal settings

F6 – exit menu

6.1 Entering Supervisor menu

➜ In gross mode, press and hold PRINT until **MAStEr** appears in the display.

➜ Enter password →0← TARE →0← TARE and confirm with PRINT .
SEtUP appears in the display.

➜ Press PRINT .
F1 appears in the display. All parameters can be modified.

Note on certified weighing systems (OIML or NTEP)

On certified weighing systems, the parameters F1, F5.1 and F5.4 are locked.

In order to change these parameters, proceed as follows:

1. Switch off the weighing terminal and open it.
2. Press button S1 on the mainboard and switch on weighing terminal.
   SEtUp is displayed, and all parameters can be modified.
3. When configuration is finished, seal the weighing terminal.

6.2 Operating the Supervisor menu

Operating the Supervisor menu means the same as operating the Operator menu, see page 15.

6.3 Block F1 – Scale

Factory settings are printed in **bold** letters.

F1.1 – Approval

no	**no approval**
OIML	approval according to OIML
ntEP	approval according to NTEP
otHEr	for other approvals

F1.2.1 – Weight units

1 weight unit: kg

2 weight unit: lb 1 lb ≈ 0.454 kg

F1.2.2 – Weighing ranges

1 r for single range weighing platforms

2 r for double range weighing platforms

F1.2.3 – Capacity of the first weighing range (coarse range)

Possible capacities and the factory settings depend on the weighing platform connected.

➜ If necessary, modify the displayed value.

F1.2.4 – Resolution of the first weighing range (coarse range)

Possible resolutions and the factory settings depend on the weighing platform connected.

➜ If necessary, modify the displayed value.

F1.2.5 – Capacity of the second weighing range (fine range)

Possible capacities and the factory settings depend on the weighing platform connected.

This parameter only appears if F1.2.2=2r is set.

➜ If necessary, modify the displayed value.

F1.2.6 – Resolution of the second weighing range (fine range)

Possible resolutions and the factory settings depend on the weighing platform connected.

This parameter only appears if F1.2.2=2r is set.

➜ If necessary, modify the displayed value.

F1.3.1 – Geo value

Adaptation of the weighing platform to the geographical location, see table in the annex.

Possible settings 0 ... 31

F1.3.2 – Linearization during adjustment

LinOFF Linearization disabled

LinOn Linearization enabled

F1.3.3 – Adjustment

The steps with grey background only appear if parameter `F1.3.2=LinOn` is set.

Display	Key	Description
E SCL		Unload weighing platform
	PRINT	Confirm empty weighing platform
10 CAL **...** **0 CAL**		The weighing terminal counts down from 10 to 0. Zero is determined
Add Ld		Load half maximum load
	PRINT	Confirm half load
000000		Enter weight value for half maximum load
	→0← TARE F	Enter weight value
003000		Weight value for half maximum load entered
	PRINT	Confirm weight value
10 CAL **...** **0 CAL**		The weighing terminal counts down from 10 to 0. Half maximum load is adjusted
FULL Ld		Load maximum load
	PRINT	Confirm maximum load
000000		Enter weight value of maximum load
	→0← TARE F	Enter weight value
006000		Weight value for maximum load entered
	PRINT	Confirm weight value
10 CAL **...** **0 CAL**		The weighing terminal counts down from 10 to 0. Maximum load is adjusted
donE		Adjustment finished. This message is displayed for about 2 seconds
F1.4		Next block in the supervisor menu

F1.4.1 – Automatic zero setting

OFF Automatic zero setting disabled (not available in NTEP-Mode)

0.5 d Automatic zero setting within **+/–0.5 d**

1 d Automatic zero setting within +/–1.0 d (not available in OIML-Mode)

3 d Automatic zero setting within +/–3 d (not available in OIML-Mode)

F1.4.2 – Power up zero

OFF Power up zero disabled

2 Power up zero within +/–2 %

10 Power up zero within **+/–10 %**

20 Power up zero within +/–20 % (not available in OIML and NTEP-Mode)

F1.4.3 – Pushbutton zero

0 Pushbutton zero disabled

2 Pushbutton zero with **+/–2 % zero setting range**

10 Pushbutton zero with +/–10 % zero setting range (not available in OIML and NTEP-Mode)

20 Pushbutton zero with +/–20 % zero setting range (not available in OIML and NTEP-Mode)

F1.5.1 – Automatic taring

On Automatic taring enabled

OFF Automatic taring **disabled**

F1.5.2 – Auto clear tare

On Clearing tare automatically enabled

OFF Clearing tare automatically **disabled**

F1.5.3 – Tare Interlock

On The weighing platform must be unloaded to zero before the tare weight can be cleared.

OFF Function **disabled**

F1.5.4 – Auto tare threshold

This menu item is only available if F1.5.1=On is set.

The weighing platform must be loaded to the set value before the weight value is automatically tared.

Factoriy setting **10 d**

Possible settings 0 … maximum load

F1.5.5 – Auto clear tare threshold

This menu item is only available if F1.5.1=On is set.

The weighing platform must be unloaded below the set value before a new weight value can be tared automatically.

If F1.5.2=On is set, the weighing platform must be unloaded to the set value before the tare value is cleared automatically.

Factory setting **10 d**

Possible settings 0 … maximum load

F1.6.1 – Digital filter

The digital filter stabilize+s the weight display when the load is moving or vibrating.

Lo Low filter

MEd **Medium** filter

HIGH High filter

F1.6.2 – Motion detection

0.5 d **Motion detection within +/–0.5 d**

1 d Motion detection within +/–1 d (not available in OIML and NTEP-Mode)

3 d Motion detection within +/–3 d (not available in OIML and NTEP-Mode)

F1.10 – Resetting parameters 1.x(.x) to factory setting

Reset all F1 parameters to factory setting, except for calibration values.
In OIML and NTEP mode the Geo value is not reset.

6.4 Block F5 – Maintenance

Factory settings are printed in **bold** letters.

F5.1 – Calibration values

F5.1.1 – Show zero-counts

F5.1.2 – Show half load weight value

F5.1.3 – Show half load counts

F5.1.4 – Show full load weight value

F5.1.5 – Show full load weight counts

F5.2– Keypad test

The terminal shows **PrESS**.

➜ Press →0← TARE F C PRINT .

➜ Press ON/OFF to exit keypad test.

F5.3 – Display test

All display segments light up.

F5.4 – Display internal resolution

F5.5 – COM1 test

To do so, the terminal must be connected to a computer.

F5.6 – Print setup

Print all setup parameters

F5.10 – General reset

Reset all parameters of groups F1 to F4 to factory settings.

7 Error messages

Error code	Error	Remedy
Err 3	EEPROM error	➜ Switch weighing terminal off and on
Err 4	Number of reference parts too small	➜ Put on additional reference parts
Err 6	EEPROM read/write error	➜ Contact your dealer or local representative.
Err 35	Weighing platform in motion when calibrating	➜ Ensure that the weighing platform is quiet
Err 70	Keypad error	➜ Contact your dealer or local representative.
⌊ - - - - ⌋	Underload	➜ Unload weighing platform ➜ Press →0← ➜ If the message reappears, contact your dealer or local representative.
⌈ - - - - ⌉	Overload	➜ Decrease load
⌈ - n 0 - ⌉ ⌊ - n 0 - ⌋	Zero setting outside zero setting range	➜ Unload weighing platform
Weighing terminal switches off automatically	• Automatic power off enabled • Battery voltage too low	➜ Switch on weighing terminal ➜ Load battery
Weighing terminal cannot be switched on	Fuse blown	➜ Contact your dealer or local representative.

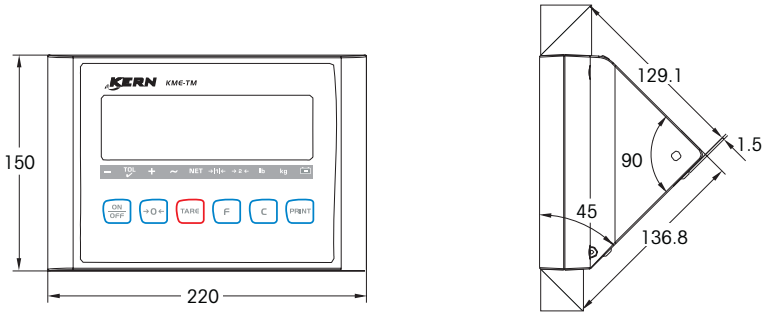
8 Technical data

8.1 General technical data

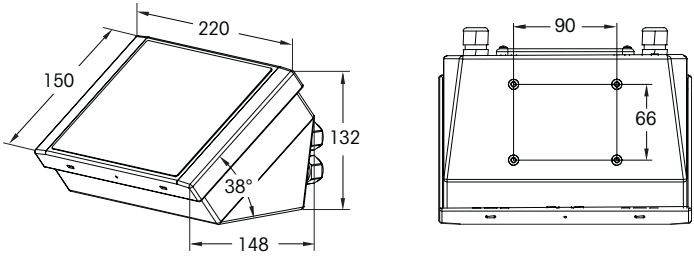
Display	• weight value: 7-digit display, 6 numbers, 30 mm high • Status indicator: 10 indicators
Operating temperature	• –10 ... +40 °C
Storage temperature	• –20 ... +60 °C
Relative humidity	• 10 ... 85 %, non condensing
Weight (incl. packing)	• KME-TM: approx. 1.3 kg / 2.9 lb • KMN-TM: approx. 2.9 kg / 6.4 lb

Dimensions

KME-TM



KMN-TM



8.2 Applications

Weighing functions	• Zero setting, taring, clearing tare • Unit switching • Display in higher resolution • Simple check weighing/classifying • Counting
Additional functions	• Printing • Automatic printout • English or Chinese printout formats selectable • Strip printer PQ16 supported • Energy saving technology, battery indicator • Automatic power off

8.3 Technical data A/D converters

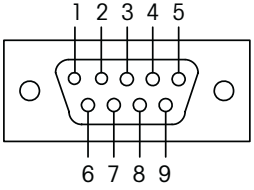
Supply	• +5 VDC
Connectable weighing cells	• Max. 4 350 Ω weighing cells
Resolution	• Max. 30.000 d • Internal max. 1.000.000 d
Update rate	• 30/s
Signal input	• 0 ... 5 mV (Zero) • 1 ... 10 mV (Span)

Terminal assignment for load cell connection

Terminal	1	2	3	4	5	6	7
Assignment	+EXC	+SEN	+SIG	Shield	–SIG	–SEN	–EXC

8.4 Serial interface data

Assignment of the serial interface connection (KME-TM)



Pin	1	2	3	4	5	6	7
Assignment	–	RXD	TXD	–	GND	–	–

For KMN-TM, refer to page 6.

SICS interface commands

The weighing terminal supports the MT-SICS (METTLER TOLEDO **S**tandard **I**nterface **C**ommand **S**et) command set. With SICS commands, it is possible to configure, query and operate the terminal from a PC. SICS commands are divided up into various levels.

For further information about the MT-SICS command set, see MT-SICS Manual (Order No. 22 011 459) or contact the KERN & Sohn Customer Service.

	Command	**Meaning**
LEVEL 0	@	Reset the scale
	I0	Inquiry of all available SICS commands
	I1	Inquiry of SICS level und SICS version
	I2	Inquiry of scale data
	I3	Inquiry of scale software version
	I4	Inquiry of serial number
	S	Send stable weight value
	SI	Send weight value immediately
	SIR	Send weight value immediately and repeatedly
	Z	Zero the scale
	ZI	Zero immediately
LEVEL 1	T	Tare
	TAC	Clear tare
	TI	Tare immediately

Toledo Continuous commands

Command	**Meaning**
P	Print out the current result
T	Tare the scale
Z	Zero the display
C	Clear the current value
S	Define reference piece number

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Konformitätserklärung

EC-Konformitätserklärung
EC-Declaration of -Conformity
EC- Déclaration de conformité
EC-Declaración de Conformidad
EC-Dichiarazione di conformità
EC-Conformiteitverklaring
EC- Declaração de conformidade
EC- Prohlášení o shode
EC-Deklaracja zgodności
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 conformità	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.

Scale Series: KERN NTEP, NTNN, UTEP, UTNN, STB_N_M
Terminals: KME-TM, KMN-TM

Mark applied	EU Directive	Standards	Approval/ Test-certificate N°
CE	2006/95/EC Low Voltage Directive	EN 60950-1 : 2006	
CE	2004/108/EC EMC Directive	EN61326: 1997+A1+A2 (Class B) EN61000-3-2 / 3-3 EN61000-4-2 / 4-4 / 4-5 / 4-11 EN61000-4-3 (10 V/m) EN61000-4-6 (3 V/m)	
CE year 1259 **M**	90/384/EEC Non-automatic Weighing Instruments Directive	EN45501 1), 2)	T7092 1), 2) TC7091 1), 2)

1)	gilt nur für geeichte Waagen	applies only to certified balances
	valable uniquement pour les balances vérifiées	sólo aplicable a balanzas verficadas
	la dichiarazione vale solo per le bilance omologate	Geldt uitsluitend voor geijkte weegschalen
	vale só para balanças com aferição	platí jen pro cejchované váhy
	dotyczy tylko wag legalizowanych	действует только для поверенных весов
2)	nur gültig für KME-TM/KMN-TM Terminals in Verbindung mit zugelassenen Lastzellen	valid only for KME-TM/KMN-TM terminals in connection with approved load cells
	valable uniquement pour les terminaux KME-TM/KMN-TM en liaison avec des cellules de charge homologuées	sólo válido para terminales KME-TM/KMN-TM en combinación con células de carga aprobadas
	valido solo per terminali KME-TM/KMN-TM in collegamento con celle di carico approvate	uitsluitend geldig voor KME-TM/KMN-TM terminals in verbinding met toegestane drukdozen
	só válido para os terminais KME-TM/KMN-TM em união com as células de carga admissíveis	Platí pouze pro terminály KME-TM/KMN-TM ve spojitosti s přípustnými zátěžovými buňkami.
	ważny tylko dla terminali KME-TM/KMN-TM w połączeniu z dopuszczalnymi ogniwami obciążnikowymi	действительно только для терминалов KME-TM/KMN-TM, связанных с допущенными грузовыми ячейками

Date: 17.09.2009 **Signature:**

Gottl. KERN & Sohn GmbH

Management

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English	Important notice for verified weighing instruments
	Weighing instruments verified at the place of manufacture bear the preceding mark on the packing label and a green M-sticker on the descriptive plate. They may be set to work immediately.
	Weighing instruments which are verified in two steps has no green "M" on the descriptive plate, bear the aforementioned identification on the packing label. The second step of the verification must be carried out by the W&M authorities
The first step of the verification has been carried out at the manufacturing plant. It comprises all tests according to EN 45501-8.2.2. If national regulations in individual countries limit the period of validity of the certification, the operator of such a scale is himself responsible for its timely re-certification.	
Deutsch	**Wichtiger Vermerk für geeichte Waagen in EU-Ländern**
	Werksgeeichte Waagen tragen vorstehendes Kennzeichen auf dem Packetikett und eine grünen M-Kleber. auf dem Eichschild. Sie dürfen sofort in Betrieb genommen werden.
	Waagen die in zwei Schritten geeicht werden und kein grünes "M" auf dem Eichschild haben, tragen vorstehendes Kennzeichen auf dem Packetikett. Der zweite Schritt der Eichung ist durch den Eichbeamten durchzuführen.
Der erste Schritt der Eichung wurde im Herstellerwerk durchgeführt. Er umfasst alle Prüfungen gemäß EN45501-8.2.2. Sofern gemäß den nationalen Vorschriften in den einzelnen Staaten die Gültigkeitsdauer der Eichung beschränkt ist, ist der Betreiber einer solchen Waage für die rechtzeitige Nacheichung Selbst verantwortlich.	
Français	**Remarque Importante pour les Instruments de pesage vérifiées dans les pays membre de l'Union Européenne**
	Les instruments de pesage vérifiés en usine sont identifiés par un M sur leur emballage et par un sticker M vert sur la plaque d'identification. Ils peuvent être utilisés après leur installation.
	Les instruments de pesage vérifiés en deux étapes portent l'identification M barré sur leur emballage. La seconde étape de la vérification doit être effectuée par l'assistant technique de l'administration des poids et mesures.
La première étape de la vérification a été effectuée en usine. Cela comprend tous les essais suivant la norme EN45501-8.2.2. Dans la mesure où la durée de la vérification est limitée en fonction des prescriptions nationales dans les différents pays, l' utilisateur d'une telle balance est lui-même responsable de la vérification ultérieure dans les délais.	
Español	**Nota importante para balanzas verificadas en paises de la UE**
	Las balanzas verificadas en origen llevan esta indicación en la etiqueta del embalaje y con la etiqueta M sobre fondo verde en la placa de caracteristicas pueden ser utilizadas inmediatamente.
	Balanzas cuya verificación se realiza en dos fases llevan esta indicación en la etiqueta del embalaje. La segunda fase de la verificación debe ser realizada por el asistente técnico de la oficina de contraste.
La primera fase de la verificación ha sido realizada en origen. Incluye todos los ensayos según lo norma EN45501-8.2.2. Si el plazo de validez de la verificación está limitado por las normas nacionales de cada estado, el usuario será responsable de las verificaciones posteriores reglamentarias de su balanza.	

Italiano	**Nota Importante per la bilance approvate nei paesi UE**
	Le bilance verificate in fabbrica portano questo contrassegno sull'etichetta dell'imballo e con il sigillo M su sfondo verde sulla targhetta metrologica possono essere messe in uso immediatamente.
	Le bilance che vengono verificate in due fasi, portano questo contrassegno sull'etichetta dell'imballo. La seconda fase della verifica deve essere eseguita dal servizio assistenza tecnica dell'ufficio di pesi e misure.
La prima fase della verifica è stata eseguita dal produttore e comprende tutte le prove previste dalla norma EN 45501-8.2.2. Se la durata di validità della verifica è limitata in accordo con le prescrizioni nazionali vigenti nei singoli paesi, l'utente stesso di una bilancia di tale tipa sarà responsabile dell'esecuzione, entro le date di scadenza previste, delle verifiche periodiche.	
Netherlands	**Belangrijke aanmerking voor geijkte weegschalen in EG-landen**
	In de fabriek geijkte weegschalen dragen dit kenteken op het emballage-etiket en een groene M-sticker op het ijklabel. Deze kunnen meteen in gebruik genomen worden.
	Bij weegschalen die in twee stappen geijkt moeten worden en geen groene "M" op het ijklabel hebben, staat dit kenteken op het emballage-etiket. De tweede stap van de ijking moet door het ijkwezen uitgevoerd worden.
De eerste stap van de ijking werd in de fabriek doorgevoerd. Deze omvat alle inspecties conform EN45501-8.2.2. Voor zover in overeenstemming met de nationale voorschriften in de individuele staten de geldigheidsduur van de ijking beperkt is, is de exploitant van een dergelijke weegschaal voor een tijdige herijking zelf verantwoordelijk.	
De eerste stap van de ijking werd in de fabriek uitgevoerd. Deze stap omvat alle tests overeenkomstig EN45501-8.2.2. Bij weegschalen met een analoge weegbruggenaansluiting moet aanvullend de nauwkeurigheid overeenkomstig EN45501-3.5.3.3 getest worden. Deze controle is niet nodig als de terminal het serienummer van de weegbrug heeft.	
Português	**Nota importante para as balanças aferidas em países EU**
	As balanças aferidas pela fábrica levam o cartaz identificador sobre a etiqueta de pacote e um adhesivo M verde sobre a placa de aferição. Têm que colocar-se em funcionamento sem demora.
	As balanças que foram aferidas em dois passos e que não tenham um "M" verde sobre a placa de aferição, têm o rótulo antecedente na etiqueta de pacote. O segundo passo da aferição tem que ser feito por um empregado público de aferição.
A primeira fase da aferição foi feita na fábrica do produtor. Abrange todas as inspecções segundo EN45501-8.2.2. Logo que segundo as normas nacionais nos estados individuais a duração de validez da aferição esteja limitada, o usuário-proprietário duma tal balança é mesmo responsável pela aferição posterior a tempo.	

Česky	**Důležitý pokyn pro cejchované váhy v zemích EU**
	Váhy ocejchované ve výrobním závodě jsou opatřeny výše uvedenou značkou na etiketě balení a zelenou nálepkou M na cejchovacím štítku. Takže se mohou okamžitě uvést do provozu.
	Váhy se cejchují ve dvou etapách, a jestliže nemají zelené M na cejchovacím štítku, mají na etiketě balení výše uvedenou značku. Druhou etapu cejchování provádí cejchovní úřad.
První fáze cejchování byla provedena ve výrobním závodě. Zahrnuje všechny testy podle EN45501-8.2.2. Pokud je podle národních předpisů v jednotlivých státech omezená časová platnost cejchování, je provozovatel takových váh sám odpovědný za včasné přecejchování.	
Polski	**Adnotacje dotyczące legalizowanych wag w państwach UE**
	Legalizowane u producenta wagi mają wystające oznaczenie na opakowaniu i zieloną nalepkę M na znaku legalizacji. Takie wagi można natychmiast eksploatować.
	Wagi, które są legalizowane w dwóch etapach i nie mają zielonego „M“ na znaku legalizacji, mają wystające oznaczenie na etykiecie opakowania. Drugi etap legalizowania musi przeprowadzić pracownik urzędu miar i wag.
Pierwszy etap legalizowania przeprowadzono w zakładzie producenta. Obejmuje wszystkie kontrole według EN45501-8.2.2. Jeśli okres ważności legalizacji wagi jest ograniczony zgodnie z narodowymi przepisami obowiązującymi w poszczególnych państwach, użytkownik ponosi wyłączną odpowiedzialność za przeprowadzenie w odpowiednim czasie ponownej legalizacji wagi.	
Русски	**Примечание для поверенных весов в странах ЕЭС**
	Поверенные на заводе весы помечаются вышеуказанным символом на упаковочной этикетке и зеленой наклейкой "M" на табличке поверки. Они могут немедленно приниматься в эксплуатацию.
	Весы, которые поверяются в два этапа и не имеют зеленой наклейки "M" на табличке поверки, помечаются вышеуказанным символом на упаковочной этикетке. Второй этап поверки должен производиться поверочным ведомством.
Первый шаг поверки был выполнен на заводе-изготовителе. Он включает все проверки согласно EN45501-8.2.2. Если в соответствии с национальными предписаниями отдельных государств срок действия поверки ограничен, эксплуатирующая организация сама несет ответственность за своевременную повторную поверку таких весов.	

Notice
Certified balances and balances used for legal applications have the EU type approval. The year of the initial verification is shown next to the CE mark. Such balances are verified in the factory and carry the „M“ mark on the actual balance and the packaging. The year of initial verification is shown next to the CE mark. The GEO value of verified balances explains for which location of use the balance has been verified. This GEO value is shown on the balance itself and on the packing. Further details see GEO value table.

Hinweise
Für geeichte/eichpflichtige Waagen liegt eine EU Bauartzulassung vor. Das Jahr der ersten Eichung ist neben dem CE Zeichen aufgeführt. Solche Waagen sind ab Werk geeicht und tragen die Kennzeichnung „M“ auf dem Gerät selbst und auf der Verpackung. Der GEO-Wert gibt bei vom Hersteller geeichten Waagen an, für welchen Aufstellungsort die Waage geeicht ist. Dieser GEO-Wert befindet sich auf der Waage sowie der Verpackung. Genaueres ist der GEO-Wert-Tabelle zu entnehmen.

Remarques
Les balances vérifiées/admissibles à la vérification font l’objet d’une approbation de modèle UE. L’année de la vérification primitive est indiqués à côté de la marque CE. Ces balances sont vérifiées d’origine et portent la marque „M“ sur l’appareil lui-même et sur l’emballage. Le valeur GEO indique le lieu d’utilisation pour lequel la balance été vérifiée. Ce valeur GEO se trouve sur la balance ainsi que sur l’emballage. Veuillez trouver plus de détails dans le tableau GEO.

Notas
Las balanzas verificadas/verificables cuentan con una aprobación de modelo UE. El año de la primera verificación está indicado al lado del distintivo CE. Estas balanzas están verificadas en fábrica y llevan la designación „M“ sobre el propio aparato y sobre el embalaje. El valor GEO indica el lugar de ubicación por lo cual la balanza está verificado. El valor se encuentra sobre la balanza así como sobre el embalaje. Por favor tomen los demás detalles de la tabla GEO.

Avvertenza
Per le bilance approvate esiste un’approvazione CE del tipo. L´anno della prima verifica è indicato a fianco della marcatura CE. I tipi marcati con un contrassegno „M“ su sfondo verde possono essere impiegati da subito. Il coefficiente GEO di bilance omologate indica per quale luogo la bilancia è stata omologata. Questo coefficiente GEO si trova sulla bilancia e sull’imballo. Ulteriori informazioni vedi tabella coefficiente GEO

Opmerkingen
Voor geijkte weegschalen/weegschalen, die verplicht geijkt moeten worden, ligt er een EG-modelgoedkeuring ter inzage. Het jaar van de eerste ijking werd naast het EG-conformiteitsteken vermeld. Dergelijke weegschalen werden in de fabriek geijkt en dragen het identificatielabel „M“ op het apparaat zelf en op de verpakking. De GEO-waarde geeft bij door de fabrikant geijkte weegschalen aan, voor welke plaats van opstelling de weegschaal geijkt is. Deze GEO-waarde bevindt zich op de weegschaal en ook op de verpakking. Meer details kan er uit de tabel met de GEO-waarde afgeleid worden.

Instruções
Para as balanças aferidas / obrigadas à aferição existe uma homologação de tipo construtivo da EU. O ano da primeira aferição fica ao lado do simbolo CE. Tais balanças foram aferidas na fábrica e levam o rótulo „M“ no mesmo aparelho e na embalagem. O valor GEO indica nas balanças aferidas pelo produtor para qual lugar de colocação a balança foi aferida. Este valor GEO encontra-se na balança assim como na embalagem. Mais pormenores podem ver-se na tablela dos valores GEO.

Poznámky
Pro ocejchované a cejchování podléhající váhy existuje povolení EU podle typu konstrukce. Rok prvního cejchování se uvádí vedle značky CE. Takové váhy se cejchují ve výrobním závodě, a jsou označeny znakem „M“ na vlastním přístroji, i na obalu. Hodnota GEO udává u výrobcem cejchovaných vah, pro jaké místo instalace je váha ocejchována. Tato hodnota GEO se nachází na váze, jakož i na obalu. Přesnější je odečíst hodnotu GEO z tabulky.

Wskazówki
Dla wag legalizowanych/podlegających obowiązkowi legalizowania istnieje dokument dopuszczenia rodzaju konstrukcji UE. Rok pierwszej legalizacji jest podany obok znaku CE. Takie wagi są legalizowane w zakładzie producenta i mają oznaczenie „M“ na sobie i na opakowaniu. W przypadku wag legalizowanych u producenta wartość geograficzna podaje, dla jakich miejsc ustawienia waga została legalizowana. Ta wartość geograficzna znajduje się zarówno na wadze jak i na opakowaniu. Dokładne informacje znajdują się w tabeli wartości geograficznych.

Указания
Калиброванные/подлежащие поверке весы получают допуск на конструкцию ЕС. Год первой поверки приведен рядом с символом CE. Такие весы поверены на заводе и имеют маркировку „M“ на самом устройстве и на упаковке. Значение GEO на откалиброванных изготовителем весах указывает, для какого места установки произведена калибровка весов. Это значение GEO находится на весах и на упаковке. Более подробная информация содержится в таблице значений GEO

GEO-WERT-Tabelle / GEO-value table

geographische Breite / geographical latitude					Höhe über Meer in Metern / altitude				
					0-650	650-1300	1300-1950	1950-2600	2600-3250
0°	0‘	-	9°	52‘	4 / 5	3 / 4	2 / 3	1 / 2	0 / 1
9°	52‘	-	15°	6‘	5 / 6	4 / 5	3 / 4	2 / 3	1 / 2
15°	6‘	-	19°	2‘	6 / 7	5 / 6	4/ 5	3 / 4	2 / 3
19°	2‘	-	22°	22‘	7 / 8	6 / 7	5 / 6	4 / 5	3 / 4
22°	22‘	-	25°	21‘	8 / 9	7 / 8	6 / 7	5 / 6	4 / 5
25°	21‘	-	28°	6‘	9 / 10	8 / 9	7 / 8	6 / 7	5 / 6
28°	6‘	-	30°	41‘	10 / 11	9 / 10	8 / 9	7 / 8	6 / 7
30°	41‘	-	33°	9‘	11 / 12	10 / 11	9 / 10	8 / 9	7 / 8
33°	9‘	-	35°	31‘	12 / 13	11 / 12	10 / 11	9 / 10	8 / 9
35°	31‘	-	37°	50‘	13 / 14	12 / 13	11 / 12	10 / 11	9 / 10
37°	50‘	-	40°	5‘	14 / 15	13 / 14	12 / 13	11 / 12	10 / 11
40°	5‘	-	42°	19‘	15 / 16	14 / 15	13 / 14	12 / 13	11 / 12
42°	19‘	-	44°	32‘	16 / 17	15 / 16	14 / 15	13 / 14	12 / 13
44°	32‘	-	46°	45‘	17 / 18	16 / 17	15 / 16	14 / 15	13 / 14
46°	45‘	-	48°	58‘	18 / 19	17 / 18	16 / 17	15 / 16	14 / 15
48°	58‘	-	51°	13‘	19 / 20	18 / 19	17 / 18	16 / 17	15 / 16
51°	13‘	-	53°	31‘	20 / 21	19 / 20	18 / 19	17 / 18	16 / 17
53°	31‘	-	55°	52‘	21 / 22	20 / 21	19 / 20	18 / 19	17 / 18
55°	52‘	-	58°	17‘	22 / 23	21 / 22	20 / 21	19 / 20	18 / 19
58°	17‘	-	60°	49‘	23 / 24	22 / 23	21 / 22	20 / 21	19 / 20
60°	49‘	-	63°	30‘	24 / 25	23 / 24	22 / 23	21 / 22	20 / 21
63°	30‘	-	66°	24‘	25 / 26	24 / 25	23 / 24	22 / 23	21 / 22
66°	24‘	-	69°	35‘	26 / 27	25 / 26	24 / 25	23 / 24	22 / 23
69°	35‘	-	73°	16‘	27 / 28	26 / 27	25 / 26	24 / 25	23 / 24
73°	16‘	-	77°	52‘	28 / 29	27 / 28	26 / 27	25 / 26	24 / 25
77°	52‘	-	85°	45‘	29 / 30	28 / 29	27 / 28	26 / 27	25 / 26