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Operating instruction Platform scale

KERN ITS, KMS-TM

Version 2.1

11/2007

GB



ITS-BA-e-0721
ME-Nr.: 22017077

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1 Introduction

1.1 Safety instructions



CAUTION!

Do not use the scales in hazardous areas!

Our product range includes special devices for hazardous areas.



DANGER!

Electric shock hazard!

▲ Always pull out the mains plug before any work on the device.



DANGER!

Electric shock hazard if the mains cable is damaged!

▲ Check the mains cable for damage regularly and replace it immediately if it is damaged.

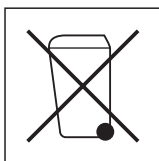
▲ On the rear side of the device, maintain a clearance of at least 3 cm in order to prevent the mains cable bending too much.



CAUTION!

On no account open the device!

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



Disposal

→ Observe the valid environmental regulations when disposing of the scale.

If the device has a rechargeable battery:

The battery contains heavy metals and therefore must not be disposed of with normal waste.

→ Observe the local regulations for disposing of environmentally hazardous materials.

Note Use with foodstuffs

Parts coming into contact with foodstuffs have smooth surfaces and are easy to clean. The materials used do not splinter and are free of harmful substances.

With foodstuffs, it is recommended to use the supplied protective cover.

→ Clean the protective cover regularly and carefully.

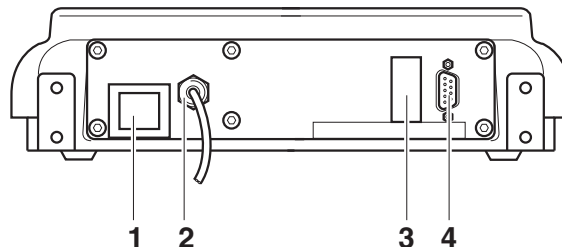
→ Replace damaged or very dirty protective cover immediately.

1.2 Description**1.2.1 Overview**

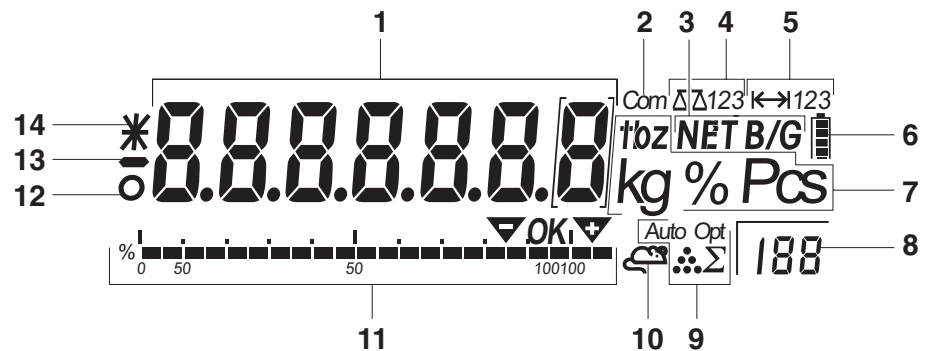
- 1 Display
- 2 Specifications, rating plate
- 3 Keys



- 1 Power supply connection
- 2 Weighing platform connection
- 3 Optional interface
- 4 RS232 interface



1.2.2 Display



- 1** 7-segment display, 7 digits, with decimal point
- 2** Active interface
- 3** Symbol for displaying gross and net values
- 4** Active scale
- 5** Weighing range display
- 6** Battery charge level; only present on scales with a battery
- 7** Weight units
- 8** Selected reference quantity
- 9** Symbols for optimizing the average piece weight
- 10** Symbol for dynamic weighing
- 11** Graphic display of the weighing range
- 12** Stability monitor (goes out when a stable weight value is reached)
- 13** Sign
- 14** Identification for changed or calculated weight values, e.g. higher resolution, minimum weight not reached

1.2.3 Keypad

Main functions

Key	Function in operating mode	Function in the menu
	Switching device on / off, abort	To the last menu item –End–
	Setting scale to zero	Scrolling back
	Taring scale	Scrolling forward
	Transfer key Long key press: Calling up menu	Activating menu item Accepting selected setting

Additional functions

Key	Function
	Switching between gross and net weight; displaying tare specification
	Calling up additional information, e.g. gross weight, average piece weight, higher resolution ...
	Switching the scale
	Switching between weight value and number of pieces
	Determining average piece weight from 10 pieces
	Determining average piece weight from any number of pieces

1.3 Putting into operation

For startup, connect the terminal to an analog METTLER TOLEDO weighing platform (see installation instructions METTLER TOLEDO Terminals IND4.. or call METTLER TOLEDO Service).

1.3.1 Connecting the power supply



CAUTION!

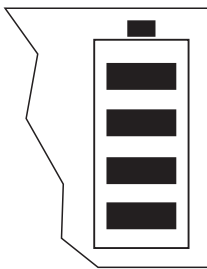
Before connecting the scale to the mains, check whether the voltage value printed on the rating plate corresponds with the local mains voltage.

▲ Never connect the device 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 device performs a self-test. When the zero display appears, the device is ready to weigh.

→ Calibrate the device in order to obtain the greatest possible precision, see Section 4.3.2.



Terminals with AccuPac can work independently from the mains for approximately 30 hours in normal operation. A prerequisite for this is that the background lighting is switched off and that no peripheral devices are connected.

The battery symbol indicates the present charging level of the battery. 1 segment corresponds to approx. 25 % capacity. When the symbol flashes the battery must be charged (min. 4 hours). The charging period is extended if work is continued during charging. The battery is protected against overcharging.

Note The battery's charging capacity can be reduced under continuous mains operation.

→ To maintain the charging capacity, after a maximum of 4 weeks discharge the battery completely before recharging it.

1.3.2 Monitoring the test substances

The metrology features of the balance and any possible available adjusting weight must be checked at regular intervals within the scope of quality assurance. For this purpose, the answerable user must define a suitable interval as well as the nature and scope of this check. 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. Test weights and balances can be adjusted quickly and at a reasonable price in KERN's accredited DKD calibration laboratory (return to national normal).

1.3.3 Adjustment

General:

According to the EU guideline 90/384/EEC balances must be verified officially if they are to be used as follows (legally regulated area):

- For commercial transactions if the price of goods is determined by weighing
- For the production of medicines in pharmacies as well as for analyses in the medical and pharmaceutical laboratory
- For official purposes
- For the production of finished packages

In case of doubt, please contact your local office of weights and measures.

Verification Information:

An EU qualification approval is available for those balances marked as appropriate for verification in the technical data. In the event that the balance is applied in an area subject to verification as described above, it must be officially verified and re-verified at regular intervals.

Re-verification of a balance is carried out in compliance with the respective legal provisions of the states. The term of verification validity for balances in Germany, for example, is normally 2 years.

The legal provisions of the country of use are to be observed.

2 Operation

2.1 Switching on and off

Switching on → Press .

The scale conducts a display test. When the weight display appears, the scale is ready to weigh.

Switching off → Press .

Before the display goes out, -OFF- appears briefly.

2.2 Zeroing / Zero point correction

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

- Manual**
1. Unload scale.
 2. Press .

The zero display appears.

Automatic In the case of scales that cannot be certified, the automatic zero point correction can be deactivated in the menu or the amount can be changed.

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

2.3 Simple weighing

1. Place weighing sample on scale.
2. Wait until the stability monitor  goes out.
3. Read weighing result.

2.4 Weighing with tare

2.4.1 Taring

→ Place the empty container on the scale and press .

The zero display and the symbol **NET** appear.

The tare weight remains saved until it is cleared.

2.4.2 Clearing the tare

→ Unload scale and press .

The symbol **NET** goes out, the zero display appears.

If `A.CL-tr` is activated in the menu, the tare weight is automatically cleared as soon as the scale is unloaded.

2.4.3 Automatic taring

Prerequisite

`A-tArE` is activated in the menu, the symbol **T** flashes in the display.

→ Place the container or packaging material on the scale.

The packaging weight is automatically saved as the tare weight, the zero display and the symbol **NET** appear.

2.4.4 Chain tare

Prerequisite

The tare function `CHAIIn.tr` is activated in the menu.

With this function it is possible to tare several times if, for example, cardboard is placed between individual layers in a container.

1. Place the first container or packaging material on the scale and press .

The packaging weight is automatically saved as the tare weight, the zero display and the symbol **NET** appear.

2. Weigh the weighing sample and read/print out the result.

3. Place the second container or packaging material on the scale and press  again.

The total weight on the scale is saved as the new tare weight. The zero display appears.

4. Weigh the weighing sample in the second container and read/print the result.

5. Repeat the last two steps for other containers.

2.5 Calling up the gross weight and tare value

1. Press .

The gross weight is displayed for 2 seconds.

2. Press  again while the gross weight is displayed.

The tare value is displayed. After a few seconds, the scale changes back to the net weight display.

2.6 Displaying weight values with a higher resolution

- Press .

The current weight value is displayed for 2 seconds in a higher resolution. The scale then changes back to the normal resolution.

2.7 Displaying the capacity available



The scale has a graphic display of the scale capacity available. The bar indicates how many per cent of the scale capacity is already occupied and what capacity is still available. In the example, approx. 65 % of the scale capacity is occupied.

2.8 Dynamic weighing

With the dynamic weighing function, it is possible to weigh restless weighing samples such as live animals. If this function is activated, the symbol  appears in the display.

With dynamic weighing, the scale calculates the mean value from 56 weighing operations within 4 seconds.

With manual start Prerequisite

AVERAGE → MANUAL is selected in the menu.

The weighing sample must be heavier than 5 scale divisions.

1. Place the weighing sample on the scale and wait until it has stabilized.

2. Press  to start dynamic weighing.

During dynamic weighing, horizontal segments appear in the display, and the dynamic result is then displayed with the symbol *.

3. Unload the scale to be able to start a new dynamic weighing operation.

With automatic start Prerequisite

AVERAGE → AUTO is selected in the menu.

The weighing sample must be heavier than 5 scale divisions.

1. Place the weighing sample on the scale.

The scale starts the dynamic weighing automatically.

During dynamic weighing, horizontal segments appear in the display, and the dynamic result is then displayed with the symbol *.

2. Unload the scale to be able to perform a new dynamic weighing operation.

2.9 Printing results

If a printer or computer is connected to the scale, the weighing results can be printed out or sent to a computer.

→ Press .

The display contents are printed out and transferred to the computer. See Section 8.2 for sample protocols.

2.10 Switching scales

If a second scale or a weighing platform is connected, e. g. via the optional analog second scale interface, the currently active scale is shown in the display.

The second scale can be operated in exactly the same way as the first scale.

→ Press .

The display changes from one scale to the other.

2.11 Cleaning



CAUTION!

Electric shock hazard!

- ▲ Before cleaning with a damp cloth, pull out the mains plug to disconnect the unit from the power supply.

Other cleaning information:

- Use damp cloths.
- Do not use any acids, alkalis or strong solvents.
- Do not clean using a high-pressure cleaning unit or under running water.
- Follow all the relevant instructions regarding cleaning intervals and permissible cleaning agents.

3 Counting

The terminal has additional functions for piece counting. The relevant settings in the menu are described in Section 4.4.1.

3.1 Counting parts into a container

1. Place the empty container on the scale and press .

The container is tared and the zero display appears.

2. Place **10** reference parts on the scale and press .

-or-

- Place the number of pieces displayed above the key  on the scale and press .

The scale determines the average piece weight and then shows the number of pieces.

3. Add more parts to the container until the required number of pieces is reached.

Note

- The average piece weight remains saved in the factory setting until a new average piece weight is determined.
- With  it is possible to switch between the number of pieces and the weighing units preset.
- When the number of pieces is displayed, it is possible to display with  the average piece weight, i. e. the weight of a single reference part, for 2 seconds.
- If **A.CL-APW ON** is set in the menu, the average piece weight is automatically cleared after each counting operation. The average piece weight must be determined again for the next counting operation.
- If **ACCURCY ON** is set in the menu, the accuracy achieved is briefly shown after the number of pieces is determined.

3.2 Counting parts out of a container

1. Place the full container on the scale and press **TARE**.

The container is tared and the zero display appears.

2. Remove **10** reference parts and press **REF 10**.

-or-

- Remove the number of pieces displayed above the key **REF n** and press **REF n**.

The scale determines the average piece weight and then shows the number of pieces removed, together with a minus sign.

3. Remove more parts from the container until the required number of pieces is reached.

3.3 Counting with variable reference quantity

If **VAR-SPL ON** is set in the menu, it is possible to select from 5 preset reference quantities via **REF n**.

- Press **REF n** as often as necessary until the display above the key has changed to the desired reference quantity.

The rest of the counting process is as described earlier.

3.4 Counting with minimum accuracy

The item **Min.rEFW** in the menu allows to preset a minimum accuracy of 97.5 %, 99.0 % or 99.5 %. On the basis of this, the scale calculates the minimum reference weight necessary to reach the defined accuracy.

1. Place the reference parts on the scale and press **REF 10** or **REF n**.
2. If the average piece weight is not sufficient to ensure the desired accuracy, **Add x PCS** appears.
3. Add the displayed number of pieces.

The scale then automatically determines the average piece weight with the larger reference quantity.

The rest of the counting process is as described earlier.

3.5 Reference optimization

The greater the reference quantity, the more accurately the scale determines the number of pieces.

3.5.1 Automatic reference optimization

rEF.Opt -> AUTO must be set in the menu for this. The symbol **Auto Opt** appears in the display.

1. Place the reference parts on the scale and press  or .
2. Place additional reference parts, max. the same number as for the first reference determination, on the scale.

The scale automatically optimises the average piece weight with the larger number of reference parts.

The rest of the counting process is as described earlier.

Note The reference optimization can be performed several times.

3.6 Counting with automatic reference determination

Prerequisite

A-SMPL ON is set in the menu.

→ Place the number of pieces displayed above the key  into the container.

The scale automatically determines the average piece weight and then shows the quantity.

The rest of the counting process is as described earlier.

3.7 Counting with two scales

For piece counting, it is possible to connect a second scale or weighing platform, e. g. a floor scale for counting a large number of pieces via the optional analog second scale interface.

The necessary settings for the application and interface parameters are described in the Sections 4.4.1, 4.6.1 and 4.6.4.

3.7.1 Counting with a reference scale

Prerequisite

The connected second scale is configured as reference scale.

1. Place the reference parts on the reference scale and press **REF 10** or **REF n**.

The scale determines the average piece weight and changes to the display in pieces (PCS).

2. Place the parts to be counted on the first scale.

The total quantity is displayed.

- Note**
- If **tOTAL-Ct -> bULK** is set in the menu, only the number of pieces on the bulk scale is displayed.
 - If **tOTAL-Ct -> bOTH** is set in the menu, the reference quantity is added to the bulk quantity.

3.7.2 Counting with a bulk scale

Prerequisite

The connected second scale is configured as bulk scale.

1. Place the reference parts on the first scale and press **REF 10** or **REF n**.

The scale determines the average piece weight and changes to the display in pieces (PCS).

2. Place the parts to be counted on the bulk scale.

The total quantity is displayed.

- Note**
- If **tOTAL-Ct -> bULK** is set in the menu, only the number of pieces on the bulk scale is displayed on the bulk scale.
 - If **tOTAL-Ct -> bOTH** is set in the menu, the reference quantity is added to the bulk quantity.

3.7.3 Counting with an auxiliary scale

Note This configuration allows counting of diverse parts, for example very small parts on one scale and large parts on the other scale.

Prerequisite

The connected second scale is configured as an auxiliary scale. The scale doesn't change automatically but only after pressing the  key.

1. Activate the appropriate scale.
2. Place the reference parts on this scale and press  or .

The scale determines the average piece weight and changes to the display in pieces (PCS).

3. Place the parts to be counted on the same scale.

The number of pieces is displayed.

4 Settings in the menu

Settings can be changed and functions can be activated in the menu. This enables adaptation to individual weighing requirements.

The menu consists of 6 main blocks containing various submenus on several levels.

4.1 Operating the menu

4.1.1 Calling up the menu and entering the password

The menu differentiates between 2 operating levels: Operator and Supervisor. The Supervisor level can be protected by a password. When the device is delivered, both levels are accessible without a password.

Operator menu

1. Press  and keep it pressed until `COdE` appears.
2. Press  again.

The menu item `tErMINL` appears. Only the submenu `dEVICE` is accessible.

Supervisor menu

1. Press  and keep it pressed until `COdE` appears.
2. Enter the password and confirm with .

The first menu item `SCALE` appears.

Note

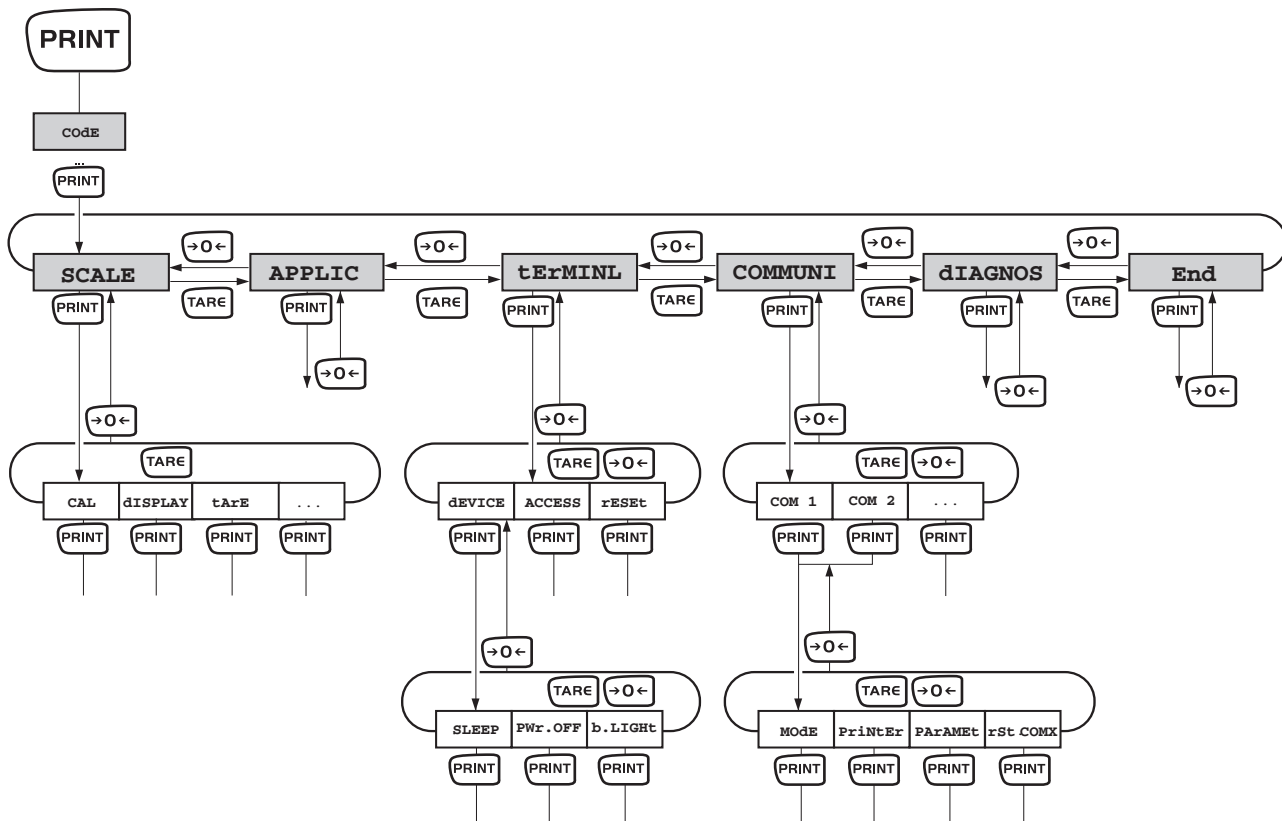
No supervisor password has been defined when the device is first delivered. Therefore respond to the password inquiry with  when you call up the menu for the first time. If a password has still not been entered after a few seconds, the scale returns to weighing mode.

Emergency password for Supervisor access to the menu

If a password has been issued for Supervisor access to the menu and you have forgotten it, you can still enter the menu:

- Press  3 times and confirm with .

4.1.2 Selecting and setting parameters



Scrolling on one level

- Scroll forward: Press **TARE**.
- Scroll back: Press **→0←**.

Activating menu items/ accepting selection

- Press **PRINT**.

Exiting menu

1. Press **ON/OFF**.
The last menu item **END** appears.
2. Press **PRINT**.
The inquiry **SAVE** appears.
3. Confirm inquiry with **PRINT** to save the settings and return to weighing mode.
-or-
→ Press **TARE** to discard changes and return to weighing mode.

4.2 Overview

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Page
SCALE	SCALE1 / SCALE2					27
	CAL					27
	dISPLAY	UNIt1	g, kg , oz, lb, t			29
		UNIt2	g , kg, oz, lb, t			
		rESOLU				
		UNt.rOLL	ON, OFF			
	tArE	A-tArE	ON, OFF			29
		ChAIn.tr	ON , OFF			
		A.CL-tr	ON, OFF			
	ZErO	AZM	OFF; 0.5 d; 1 d; 2 d; 5 d; 10 d			29
	rEStArt	ON/ OFF				29
	FILtEr	VibrAt	LOW, MEd , HIGH,			30
		PrOCeSS	UNIVER , dOSING			
		StABILI	FASt, StAndrd , PrECISE			
	rESet	SUrE?				30
APPLIC	COUNT	VAR-SPL	ON, OFF			30
		SPL-qtY	Sq1 ... Sq5			
		Min.reFW	OFF , 97.5%, 99.0%, 99.5%			
		rEF Opt	OFF , AUtO			
		A-SMPL	ON, OFF			
		A.CL-APW	ON, OFF			
		ACCurCY	ON, OFF			
		tOtAL.Ct	bULK , bOth			
	AVErAGE	OFF , AUtO, MAnuAL				31
	rESet	SUrE?				31
tERMINL	dEVICE	SLEEP	OFF , 1 min, 3 min, 5 min			32
		PWr OFF	YES , NO			
		b.LIGHt	ON, OFF			
	ACCESS	SUPErVI				32
	rESet	SUrE?				32

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Page	
COMMUNI	COM 1/COM 2	MODE	Print			33	
			A.Print				
			CONTINU				
			dIALOG				
			CONT.OLd				
			dIAL.OLd				
			dt-b	GrOSS	ON, OFF		
				tArE	ON, OFF		
				nEt	ON, OFF		
			dt-G	GrOSS	ON, OFF		
				tArE	ON, OFF		
				nEt	ON, OFF		
			COnt-Wt				
			COnt-Ct				
			2nd.dISP				
			rEF				
			bULK				
			AuXILIA				
		PriNtEr	tEmPLat	StdArd, tEMPLt1, tEMPLt2		33	
				ASci.Fmt	LINE.FMt		MULTI SINGLE
					LENGtH		1 ... 100
					SEPARAt		, ;...
					Add LF		0 ... 9
		PArAMEt	bAUd	300 ... 38400		34	
			PARity	7 nonE, 8 nonE, 7 odd, 8 odd, 7 EVEN, 8 EVEN			
			H.SHAKE	NO, XONXOFF, nEt 422, nEt 485			
			NEt.Addr	0 ... 31			
			ChECSuM	ON, OFF			
			Vcc	ON, OFF			
		rSt.COMx	SURE?			34	

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Page
COMMUNI	OPTION	EtH.NET	IP.AddrS, SUBNet, GAtEWAY			34
		USb	USb tEst			34
		diGiTaL	IN 1 ... 4	OFF, ZErO, tArE, Print, rEF 10, rEF n, SCALE, Unit		34
			OUT 1 ... 4	OFF, StAbLE, bEL.Min, AbV.Min, UndErLd, OVErLd, StAr		
		ANALOG	Mode	rEF, bULK, AuXILIA, bYPASS		34
	dEF.PrN	tEMPLt1/ tEMPLt2	LINE 1 ... LINE 20	Not.USEd, HEAdEr, SCALE.NO, GrOSS, tArE, nEt, APW, rEF Ct, PCS, StArLN, CrLF, F FEEd		35
DIAGNOS	tEst SC	ExtErN				36
	KboArđ					
	dISPLAY					
	SNr					
	SNr2					
	LiSt					
	LiSt2					
	rESet.AL	SUrE?				

4.3 Scale settings (SCALE)

4.3.1 SCALE1/SCALE2 – Selecting scale

This menu item only appears if an analog second scale or a weighing platform is connected.

4.3.2 CAL – calibration (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. It is also recommendable to adjust the balance periodically during weighing operation in order to obtain exact measured values.

This menu item is not available for certified scales without internal calibration weight.

Adjusting of non verifiable balances

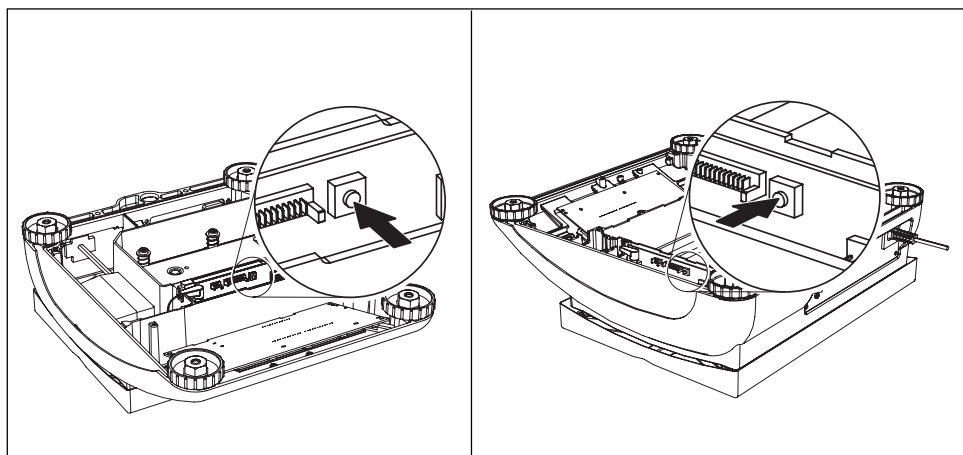
CAL	1. Unload scale. 2. Activate menu item CAL with PRINT. The scale determines the zero point. –0– appears in the display. The calibration weight to be placed on the scale then flashes in the display. 3. If necessary, change the weight value displayed with TARE. 4. Place the calibration weight on the scale and confirm with PRINT. The scale calibrates with the calibration weight loaded. After calibration is completed, –done– appears briefly in the display, and the scale automatically returns to weighing mode.
-----	---

Adjusting of verifiable balances

- Switch off the scale.
- Remove the scale bottom plate by undoing the Torx TX20 retaining screws .Important: In order to remove the bottom plate it is necessary to break the certification seal affixed to it! Once this seal has been destroyed, the scale must be recertified by an accredited organization, and a new certification seal must be affixed before the instrument may be used as a certified scale again!
- Hold down the service switch (pushbutton) on the analogprint (indicated by an arrow in the drawings below, while at the same time switching on the scale. Keep the service switch pressed in until "Scale" appears in the display .

Small platform model

Large platform model



1.Display "Scale": Press the -key (within 20sec)

2.Display "Metrolo": Press the -key

3.Display "Scale1": Press the -key

4.Display "ramp": Press the -key

5.Display "SNR": Press the -key

6.Display "SCAL.blid": Press the -key

7.Display "GEO" (adjustment by means of GEO value):

The GEO value can be set in this block and the balance also adapted to the local gravity ratios without adjusting weights.

Case a) You are familiar with the GEO values.

Once the -key has been pressed, the current GEO value will be displayed.

Press the or -key, in order to alter the GEO value. . The next value is displayed every time the key is pressed (adjustment range: 0 - 31). See the GEO value chart in chapter 7.1.1 for the appropriate value.

Confirm the selected GEO value using the -key.

Please note: The GEO value may not be readjusted following this "adjustment by means of GEO value", as this would cause the set adjusting values to become invalid.

Case b) You are NOT familiar with the GEO values. In this case adjustment must be made using adjusting weights (see item 9.).

Press the -key.

8.Display "LIN-CAL:" Press the -key.

9.Display "CAL:" Press the -key.

The scale determines the zero point. -preload- appears in the display. Press the -key. The calibration weight to be placed on the scale then flashes in the display.

If necessary, change the weight value displayed with

Place the calibration weight on the scale and confirm with

The scale calibrates with the calibration weight loaded. After calibration is completed, -done- appears briefly in the display.

Return to weighing mode:

Press the  -key, "END" will appear on the display

Press the  -key, order to save the alterations. "Save" will appear on the display.

Press  -key. to confirm. Following this the balance will return to weighing mode.

4.3.3 DISPLAY – weighing unit and display accuracy

UNIt1	Select weighing unit 1: g, kg, oz, lb, t
UNIt2	Select weighing unit 2: g, kg, oz, lb, t
rESOLU	Select readability (resolution), model-dependent
UNt.rOLL	When UNt.rOLL is switched on, the weight value can be displayed in all available units and as pieces with  .
Notes	- On certified scales, the weighing units oz and lb are displayed with the symbol *. - On certified scales, resolutions that deviate from the scale definition are displayed without a weighing unit and with the symbol *. - On dual-range/dual interval scales, resolutions marked with 1<-> 1/2l are divided up into 2 weighing ranges / intervals, e.g. 2 x 3000 d.

4.3.4 TARE – tare function

A-tArE	Switching on/off automatic taring
CHAIIn.tr	Switching on/off chain tare
A.CL-tr	Switching on/off automatic taring with automatic clearing of the tare weight when the load is removed from scale

4.3.5 ZERO – automatic zero update

AZM	On certified scales, this menu item does not appear. Switching on/off automatic zero update and selecting zeroing range. Possible settings: OFF; 0.5 d; 1 d; 2 d; 5 d; 10 d
------------	--

4.3.6 RESTART – automatic saving of zero point and tare value

ON/OFF	When the Restart function is activated, the last zero point and tare value are saved. After switching off / on or after a power interruption, the device continues to work with the saved zero point and tare value.
---------------	--

4.3.7 FILTER – adaptation to the ambient conditions and the weighing type

VIbrAt LOW MED HIGH	Adaptation to the ambient conditions • Very steady and stable environment. The scale works very quickly, but is very sensitive to external influences. • Normal environment. The scale operates at medium speed. • Restless environment. The scale works more slowly, but is insensitive to external influences.
PrOCESS UNIVER dOSING	Adaptation to the weighing process • Universal setting for all weighing samples and normal weighing goods • Dispensing liquid or powdery weighing samples
StAbILI FAST StAndrd PrECISE	Adjusting the weighing speed • The scale operates very fast. • The scale operates at medium speed. • The scale operates with the greatest possible reproducibility. The slower the scale works, the greater the reproducibility of the weighing results.

4.3.8 RESET – resetting scale settings to factory settings

SUR?	Confirmation inquiry • Reset the scale settings to factory settings with  • Do not reset scale settings with 
-------------	--

4.4 Application settings (APPLICATION)

4.4.1 COUNT – settings for counting

Var-SPL ON OFF	Adaptation of the reference quantity • The reference quantity can be changed in operating mode • Counting only with defined reference quantities
SPL-qtY Sq1 ... Sq5	Reference quantity • Define 5 fixed reference quantities
Min.reFW OFF 97.5, 99.0, 99.5	Monitoring the minimum reference weight • No monitoring of the minimum reference weight • Monitoring the minimum reference weight so that a counting accuracy of 97.5 %, 99.0 % or 99.5 % is achieved
rEF.Opt OFF AUTO	Optimizing the average piece weight • No reference optimization • Automatic reference optimization
A-SMPL	Automatic determination of the average piece weight

ON	After taring, the average piece weight is determined with the next weight placed on the scale and the displayed reference quantity
OFF	No automatic determination of the average piece weight
A.CL-APW	Automatic clearing of the average piece weight
ON	When the load is taken off the scale after a counting operation, the average piece weight is automatically cleared. The next counting operation begins with determining the average piece weight again.
OFF	The average piece weight is maintained until a new average piece weight is determined
ACCuRCY	Displaying the counting accuracy
ON	After the average piece weight is determined, the counting accuracy that can be achieved is shown briefly in the display.
OFF	No counting accuracy display
tOtAl.Ct	Counting on two scales
bULK	Display number of pieces for the parts on the bulk scale only
bOth	Display number of pieces for all parts on the bulk and the reference scale

4.4.2 AVERAGE – determining the average weight for an unstable load

OFF	Calculating average weight switched off
AUtO	Calculating average weight with automatic start of the weighing cycle
MAnuAL	Calculating average weight with manual start of the weighing cycle via 

4.4.3 RESET – resetting application settings to factory settings

SURe?	Confirmation inquiry - Reset the application settings to factory settings with  - Do not reset the application settings with 
--------------	---

4.5 Terminal settings (TERMINAL)

4.5.1 DEVICE – Sleep mode, energy-saving mode and display backlighting

SLEEP	This menu item only appears on devices in mains operation. When SLEEP is activated, the scale switches off display and backlighting after the time period set when not in use. The display and backlighting are switched on again at the press of a key or if the weight changes. Possible settings: OFF, 1 min, 3 min, 5 min
Pwr OFF	This menu item only appears on devices in battery operation. When Pwr OFF is activated, the device switches itself off automatically after approx. 3 minutes when not in use.
b.LIGHT	Switching the display backlighting on/off. On scales with a battery, the background lighting switches itself off automatically if there has been no activity on the scale for 5 seconds.
Note	This menu item is accessible without a Supervisor password.

4.5.2 ACCESS – password for Supervisor menu access

SUPERVI ENTER.C rEtYPE.C	Password entry for Supervisor menu access Request to enter password → Enter the password and confirm with  Request to repeat the password entry → Enter the password again and confirm with 
Notes	- The password can consist of up to 4 characters. - The key  must not be part of the password. It is required for confirming the password. - The key  may only be used in combination with another key. - If you enter an impermissible code or make a typing error in the repetition, COdE.Err. appears in the display.

4.5.3 RESET – resetting terminal settings to the factory settings

SUre?	Confirmation inquiry - Reset terminal settings to the factory settings with  - Do not reset the terminal settings with 
--------------	--

4.6 Configuring interfaces (COMMUNICATION)

4.6.1 COM1/COM2 -> MODE – operating mode of the serial interface

Print	Manual data output to the printer with 
A.Print	Automatic output of stable results to the printer (e. g. for series weighing operations)
CONTINU	Ongoing output of all weight values via the interface
dIALOG	Bi-directional communication via MT-SICS commands, control of the scale via PC
CONT.OLD	As per CONTINU , see above, but with 2 fixed blanks in front of the unit (compatible with Spider 1/2/3)
dIAL.OLD	As per dIALOG , see above, but with 2 fixed blanks in front of the unit (compatible with Spider 1/2/3)
dt-b GROSS tArE nEt	DigiTOL-compatible format. • Transfer of the gross weight, identified with "G" • Transfer of the tare weight • Transfer of the net weight
dt-G	As per dt-b , see above, gross weight identified with "G"
COnT-Wt	TOLEDO Continuous mode
COnT-Ct	TOLEDO Continuous mode, transfer of the number of pieces
2nd.dISP	For connecting a second display (automatically activates the 5-V voltage supply at Pin 9)
rEF	Data transfer from the reference scale (automatic switchover)
bULK	Data transfer from the quantity scale (automatic switchover)
AuXILIA	Data transfer from the reference or quantity scale (manual switchover)

4.6.2 COM1/COM2 -> PRINTER – settings for protocol printout

This menu item only appears if the mode "Print" or "A.Print" is selected.

tEmPLat StdArd tEmPLt1 tEmPLt2	Selecting protocol printout • Standard printout • Printout in accordance with Template 1 • Printout in accordance with Template 2
ASci.FmtT LINE.Fmt LENGtH SEPArAt Add LF	Selecting formats for the protocol printout • Line format: MULTI (multi-line) or SINGLE (single-line) • Line length: 0 ... 100 characters, appears only with line format MULTI • Separator: , ; . / \ _ and space; appears only with line format SINGLE • Line feed: 0 ... 9

4.6.3 COM1/COM2 -> PARAMET – communication parameter

bAUd	Selecting baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400 baud
PAritY	Selecting parity: 7 none, 8 none, 7 odd, 8 odd, 7 even, 8 even
H.SHAKE	Selecting Handshake: NO, XONXOFF, nEt422, nEt485 (network operation as per RS485 standard via the optional RS422/RS485 interface, only for COM1)
NET.Addr	Assigning network address: 0 ... 31, only for NET 485
ChECSuM	Activating checksum byte (appears only in TOLEDO Continuous mode)
Vcc	Switching 5V voltage, e.g. for a bar code reader, on / off

4.6.4 COM1/COM2 -> RESET COM1/RESET COM2 – resetting serial interface to factory settings

SUrE?	Confirmation inquiry - Reset interface settings to factory settings with  - Do not reset the interface settings with 
--------------	---

4.6.5 OPTION – configuring options

If no option is installed or is not yet configured, N . A . appears in the display.

Eth.NET IP.AddrS SUBNET GAtEWAY	Configuration of the Ethernet interface - Enter IP address - Enter Subnet address - Enter Gateway address
USb USb TEST	not documented
diGiTAL IN 1 ... 4 OFF ZErO tArE PrInT rEF 10 rEF n SCALE UNIt	

OUT 1 ... 4 OFF StAbLE bEL.MIN AbV.MIN UNdErLd OVerLd StAr	
ANALOG Mode rEF bULK AuXILIA BYPASS	Configuration of the analog second scale interface Operating mode of the second scale • Second scale can only be used to determine the average piece weight • Second scale can only be used as bulk scale • No difference between reference and bulk scale, all functions available on the scale selected • Second scale interface not assigned

4.6.6 DEF.PRN – configuring templates

tEMPLt1/tEMPLt2 LINE 1 ... 20 NOT.USEd HEAdEr SCALE.NO GROSS tArE nEt APW rEF Ct PCS StARLN CrLF F FEEd	Selecting Template 1 or Template 2 Select line • Line not used • Line as header. The contents of the header must be defined via an interface command, see Section 5.1. • Scale number • Gross weight • Tare weight • Net weight • Average piece weight • Reference quantity • Pieces • Line with *** • Line feed (blank line) • Page feed
---	---

4.7 Diagnosis and printing out of the menu settings (DIAGNOS)

tEst SC External	Testing scale with external calibration weight 1. The scale checks the zero point. –0– appears in the display. The test weight flashes in the display. 2. If necessary, change the weight value displayed with  3. Put the calibration weight on the scale and confirm with  4. The scale checks the calibration weight put on them. 5. After the test is completed, the deviation from the last calibration briefly appears in the display, ideally $\Delta d = 0.0g$, after which the scale changes to the next menu item KboArđ.
KboArđ PUSH 1 . . . 10	Keyboard test - First press the large keys on the bottom row in order:     - Then press the smaller keys in the top row:       If the key works, the scale changes to the next key. Note You cannot abort the keyboard test! If you have selected the menu item KboArđ, you must press all keys.
dISPLAY	Display test: The scale displays all functioning segments
SNr	Display of the serial number
SNr2	Display of the serial number of scale 2. This menu item only appears if an analog second scale is connected.
List	Printout of a list of all menu settings
List2	Printout of a list of all menu settings of scale 2. This menu item only appears if an analog second scale is connected.
rESet .AL SUrE?	Resetting all menu settings to the factory settings Confirmation inquiry - Reset all menu settings to the factory settings with  - Do not reset the menu settings with 

5 Interface description

5.1 SICS interface commands

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

5.1.1 Available SICS commands

	Command	Meaning
LEVEL 0	@	Reset the scale
	I0	Inquiry of all available SICS commands
	I1	Inquiry of SICS level and SICS versions
	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 repeatedly
	Z	Zero the scale
	ZI	Zero immediately
LEVEL 1	D	Write text into display
	DW	Weight display
	K	Keyboard check
	SR	Send and repeat stable weight value
	T	Tare
	TA	Tare value
	TAC	Clear tare
	TI	Tare immediately
LEVEL 2	C2	Calibrate with the external calibration weight
	C3	Calibrate with the internal calibration weight
	I10	Inquire or set scale ID
	I11	Inquiry of scale type
	P100	Print out on the printer
	P101	Print out stable weight value
	P102	Print out current weight value immediately
	PWR	Power On/Off

	Command	Meaning
	SIRU	Send weight value in the current unit immediately and repeat
	SIU	Send weight value in the current unit immediately
	SNR	Send stable weight value and repeat after every weight change
	SNRU	Send stable weight value in the current unit and repeat after every weight change
	SRU	Send weight value in the current unit and repeat
	ST	After pressing the Transfer key, send the stable weight value
	SU	Send stable weight value in the current unit
	TST2	Start test function with external weight
	TST3	Start test function with internal weight
LEVEL 3	PW	Average piece weight
LEVEL SPECIAL	I31	Header for the printout
	ICP	Send configuration of the printout
	LST	Send menu settings
	M01	Weighing mode
	M02	Stability setting
	M03	Autozero function
	M19	Send calibration weight
	M21	Inquire/set weight unit
	P	Print text
	P130	Weight value, unit and price
	PCS	Number of pieces
	PRN	Print out at every printer interface
	REF	Average piece weight
	RST	Restart
	SFIR	Send weight value immediately and repeat quickly
	SIH	Send weight value immediately in high resolution
	SWU	Switch weight unit
	SX	Send stable data record
	SXI	Send data record immediately
	SXIR	Send data record immediately and repeat
	U	Switch weight unit

5.1.2 Requirements for communication between scale and PC

- The scale must be connected to the RS232 or Ethernet interface of a PC with a suitable cable.
- The interface of the scale must be set to "Dialog" mode, see Section 4.6.1.
- A terminal program must be available on the PC, e.g. HyperTerminal.
- The communication parameters baud rate and parity must be set in the terminal program and on the scale to the same values, see Section 4.6.3.

5.2 TOLEDO Continuous mode

5.2.1 TOLEDO Continuous commands

The scale supports the following input commands in TOLEDO Continuous mode:

Command	Meaning
P <CR><LF>	Print out the current result
T <CR><LF>	Tare the scale
Z <CR><LF>	Zero the display
C <CR><LF>	Clear the current value
T x.xxx <CR><LF>	Define tare

5.2.2 Output format in TOLEDO Continuous mode

Weight values are always sent in the following format in TOLEDO Continuous mode:

1	Status			Field 1						Field 2						17	18
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
STX	SWA	SWB	SWC	MSD	–	–	–	–	LSD	MSD	–	–	–	–	LSD	CR	CHK
Field 1	6 digits for the weight value that is sent without a decimal point and unit																
Field 2	6 digits for the tare weight that is sent without a decimal point and unit																
STX	ASCII characters 02 hex, characters for "start of text"																
SWA, SWB, SWC	Status words A, B, C, see below																
MSD	Most significant digit																
LSD	Least significant digit																
CR	Carriage Return, ASCII characters 0D hex																
CHK	Checksum (2-part complement of the binary sum of the 7 lower bits of all previously sent characters, incl. STX and CR)																

Status word A								
Function	Selection	Status Bit						
		6	5	4	3	2	1	0
Decimal position	X00	0	1			0	0	0
	X0					0	0	1
	X					0	1	0
	0.X					0	1	1
	0.0X					1	0	0
	0.00X					1	0	1
	0.000X					1	1	0
	0.0000X					1	1	1
Numerical increment	X1			0	1			
	X2			1	0			
	X5			1	1			

Status word B	
Function / value	Bit
Gross / net: Net = 1	0
Sign: Negative = 1	1
Overload = 1	2
Movement = 1	3
lb/kg: kg = 1	4
1	5
Powerup = 1	6

Status word C	
Function / value	Bit
0	0
0	1
0	2
Print request = 1	3
Extended = 1	4
1	5
Manual taring, only kg = 1	6

6 Event and error messages

Error	Cause	Remedy
Display Dark	- Back lighting set too dark - No mains voltage - Unit switched off - Mains cable not plugged in - Brief fault	→ Set back lighting (b.LIGHT) brighter → Check mains → Switch on unit → Plug in mains plug → Switch device off and back on again
Insufficient load L _ _ _ _ J	- Load plate not on the scale - Weighing range not reached	→ Place load plate on the scale → Set to zero
Overload r _ _ _ _ 7	Weighing range exceeded	→ Unload scale → Reduce preload
_ _ _ _ _	Result not yet stable	→ If necessary adjust vibration adapter or weigh dynamically
_ _ n 0 _ _	Function not permissible	→ Unload scale and set to zero
r _ _ n 0 _ 7 L _ _ n 0 _ J	Zeroing not possible with overload or insufficient load	→ Unload scale
E r r 4	Average piece weight too low	→ Select and place larger number of reference parts on the scale
E r r 5	No valid value from the reference scale	→ Check cable connection between the units → Check interface settings
E r r 6	No calibration	→ Unplug the mains plug then plug it back in; switch unit off and then back on in battery mode → Calibrate scale → Contact your dealer or local representative
E r r 7	Average piece weight too low	→ Counting is not possible on this scale with this average piece weight

Error	Cause	Remedy
Err 9	Unstable weight value when referencing	→ Ensure stable surroundings → Ensure that the weighing pan is freely movable → Adjust vibration adapter
Err 17	Printout not yet ended	→ End printout → Repeat required action
Err 18	Switching the weighing unit impermissible during dynamic weighing	→ End dynamic weighing → Switch weighing unit
Err 53	EAROM checksum error	→ Unplug the mains plug then plug it back in; switch unit off and then back on in battery mode → Contact your dealer or local representative
Weight display unstable	- Restless installation location - Draft - Restless weighing sample - Contact between weighing pan and/or weighing sample and surroundings - Mains fault	→ Adjust vibration adapter → Avoid drafts → Dynamic weighing → Remedy contact → Check mains
Incorrect weight display	- Incorrect zeroing - Incorrect tare value - Contact between weighing pan and/or weighing sample and surroundings - Scale tilted	→ Unload scale, set to zero and repeat weighing operation → Clear tare → Remedy contact → Level scale

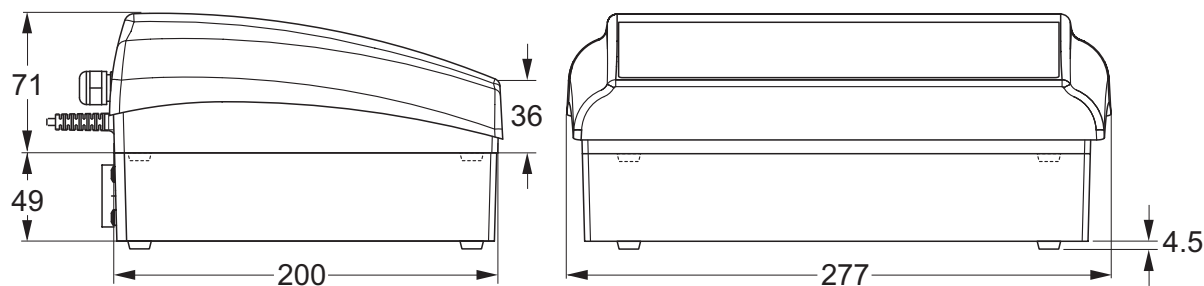
7 Technical data and accessories

7.1 Technical data

7.1.1 General data

ITS-BA-e-0720	
Applications	• Weighing • Dynamic weighing • Counting with fixed or variable reference quantity • Counting with reference and bulk scale
Settings	• Resolution selectable • Weighing unit selectable: g, kg, oz, lb, t • Taring function: manual, automatic, chain tare • Automatic zero point correction when the scale is switched on and during operation • Filter for adapting to the ambient conditions (vibration adapter) • Filter for adapting to the weighing type, e.g. dispensing (weighing process adapter) • Switch-off function, sleep mode for mains-operated devices, energy-saving mode for battery operation • Display lighting • Add mode for determining the piece weight when counting • Reference optimization • Graphic display of the weighing range
Display	• LCD (liquid crystal display), digits 16 mm high, with back lighting
Keypad	• Pressure point membrane keypad • Scratch-proof labeling
Housing	• Diecast aluminum housing • Dimensions, see Page 45
Protection Class (IEC 529, DIN 40050, EN60529)	• IP65 (not with Ethernet interface)
Resolution of the analog second scale interface	• 300000 points in noncertified configuration • 7000 points in certified configuration
Supply of the weighing cell	• 8.2 V

7.1.2 Dimensions



Dimensions in mm

7.1.3 Net weights

	without battery	with OptionPac (incl. battery)
ITS	2.4 kg	4.4 kg

7.1.4 Interface connections

The compact scale can be fitted with a maximum of 2 interfaces. The following combinations are possible:

COM1	COM2	Note
RS232	–	
RS232	RS232	
RS232	Ethernet	
RS232	Digital I/O	
RS232	Analog second scale interface	

7.1.5 Assignment of the interface connections

Pin	RS232 (COM1/ COM2)	Digital I/O (COM2)	Analog Interface
1	–	GND	+ Excitation (+8.2 VDC)
2	TxD1/2	OUT0	+ Sense
3	RxD1/2	OUT1	Shield
4	–	OUT2	– Sense
5	GND	OUT3	– Excitation (GND)
6	–	INO	–

Pin	RS232 (COM1/ COM2)	Digital I/O (COM2)	Analog Interface
7	–	IN1	+ Signal
8	–	IN2	– Signal
9	VCC	IN3	–

8 Appendix

8.1 Table of Geo Values

For weighing instruments verified at the manufacturer's, the geo value indicates the country or geographical zone for which the instrument is verified. The geo value set in the instrument (e.g. "Geo 18") appears briefly after switch-on or is specified on a label.

Table **GEO VALUES 3000e** shows the geo values for European countries.

Table **GEO VALUES 6000e/7500e** shows the geo values for different gravitation zones.

8.1.1 GEO VALUES 3000e, OIML Class III (European Countries)

Geographical latitude	Geo value	Country
46°22' – 49°01'	18	Austria
49°30' – 51°30'	21	Belgium
41°41' – 44°13'	16	Bulgaria
42°24' – 46°32'	18	Croatia
48°34' – 51°03'	20	Czechia
54°34' – 57°45'	23	Denmark
57°30' – 59°40'	24	Estonia
59°48' – 64°00'	25*	Finland
64°00' – 70°05'	26	
41°20' – 45°00'	17	France
45°00' – 51°00'	19*	
47°00' – 55°00'	20	Germany
34°48' – 41°45'	15	Greece
45°45' – 48°35'	19	Hungary
63°17' – 67°09'	26	Iceland
51°05' – 55°05'	22	Ireland
35°47' – 47°05'	17	Italy
55°30' – 58°04'	23	Latvia
47°03' – 47°14'	18	Liechtenstein
53°54' – 56°24'	22	Lithuania
49°27' – 50°11'	20	Luxemburg
50°46' – 53°32'	21	Netherlands
57°57' – 64°00'	24*	Norway
64°00' – 71°11'	26	

Geographical latitude	Geo value	Country
49°00' – 54°30'	21	Poland
36°58' – 42°10'	15	Portugal
43°37' – 48°15'	18	Romania
47°44' – 49°46'	19	Slovakia
45°26' – 46°35'	18	Slovenia
36°00' – 43°47'	15	Spain
55°20' – 62°00'	24*	Sweden
62°00' – 69°04'	26	
45°49' – 47°49'	18	Switzerland
35°51' – 42°06'	16	Turkey
49°00' – 55°00'	21*	United Kingdom
55°00' – 62°00'	23	

* factory setting

8.1.2 GEO VALUES 6000e/7500e OIML Class III (Height £1000 m)

Geographical latitude	Geo value
00°00' – 12°44'	5
05°46' – 17°10'	6
12°44' – 20°45'	7
17°10' – 23°54'	8
20°45' – 26°45'	9
23°54' – 29°25'	10
26°45' – 31°56'	11
29°25' – 34°21'	12
31°56' – 36°41'	13
34°21' – 38°58'	14
36°41' – 41°12'	15
38°58' – 43°26'	16
41°12' – 45°38'	17
43°26' – 47°51'	18
45°38' – 50°06'	19
47°51' – 52°22'	20
50°06' – 54°41'	21
52°22' – 57°04'	22
54°41' – 59°32'	23

Geographical latitude	Geo value
57°04' – 62°09'	24
59°32' – 64°55'	25
62°09' – 67°57'	26
64°55' – 71°21'	27
67°57' – 75°24'	28
71°21' – 80°56'	29
75°24' – 90°00'	30

8.2 Sample protocols

Weighing with tare

G	0.1085 kg
T	0.0145 kg
N	0.0940 kg

G = Gross weight

N = Net weight

T = Tare

Dyn WT = dynamically determined weight

Dynamic weighing

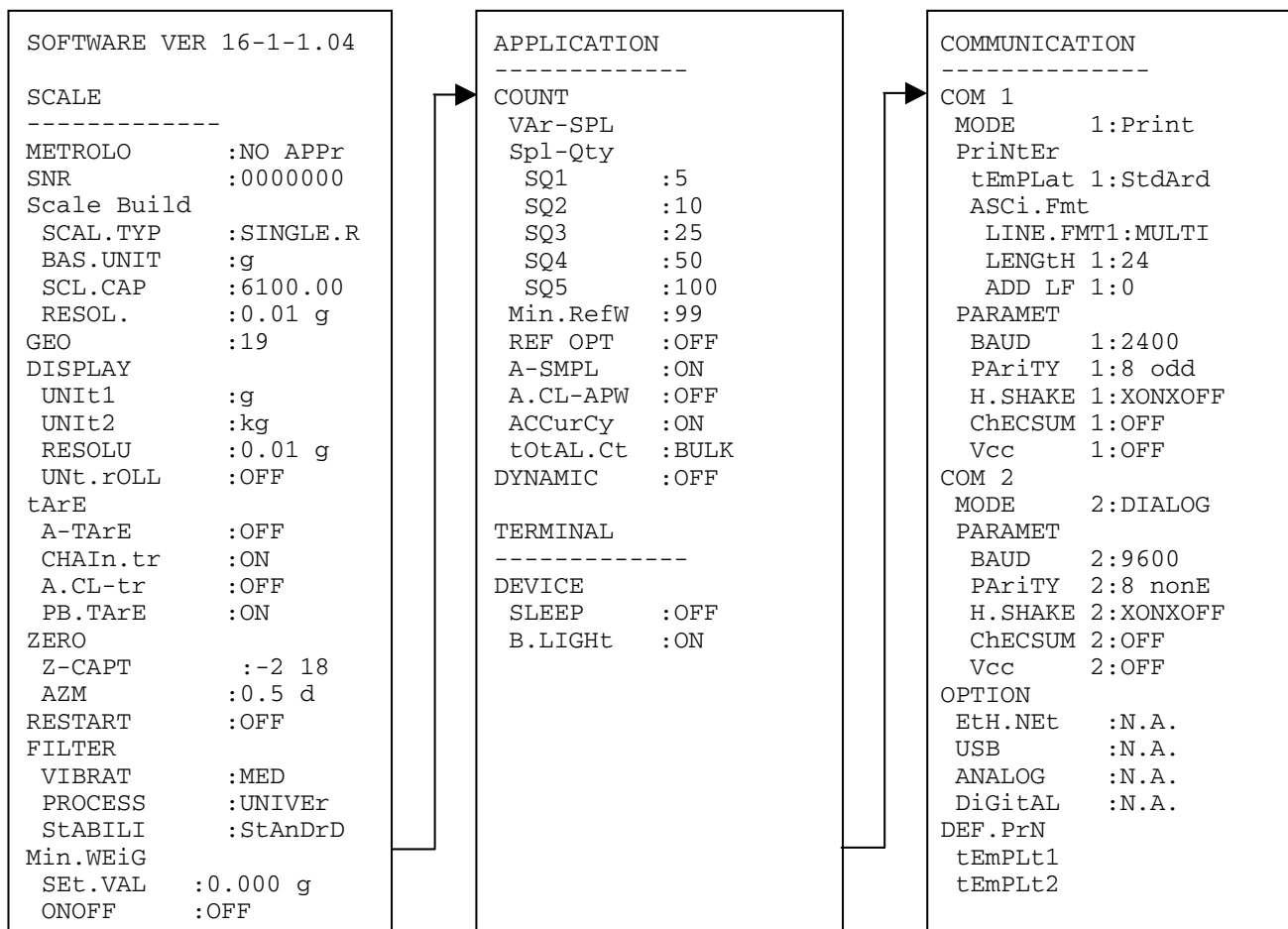
Dyn WT	43.52 kg
T	3.78 kg

Printout with header

KERN & Sohn GmbH
www.kern-sohn.com

G 0.1085 kg
T 0.0145 kg
N 0.0940 kg

Protocol of the scale settings (menu point List, see page 36)





KERN & Sohn GmbH

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Tel: 0049-[0]7433- 9933-0

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Internet: www.kern-sohn.de

Konformitätserklärung

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

ЕС-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	Manifetamos 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: BTBP/BTSP/BTTP/ITB/ITS/ITT
Plattform line: TP
Terminals: KMB-TM, KMS-TM, KMT-TM

Mark applied	EU Directive	Standards	Approval/ Test-certificate N°
	73/23/EEC 93/68/EEC Low Voltage	EN61010-1	
	89/336/EEC 93/68/EEC 92/31/EEC EMC	EN61326-1 EN61000-3-2 EN61000-6-1 0,5µV/e (3V/m) EN61000-6-2 1,3µV/e (10V/m)	
 year 0103 	90/384/EEC 93/68/EEC Non automatic weighing Instruments 1), 2), 3)	EN45501 1), 2), 3)	T6189 1), 2) TC7089 1), 2)

Scale Series: BTEP

Mark applied	EU Directive	Standards	Approval/ Test-certificate N°
	73/23/EEC 93/68/EEC Low Voltage	EN60950-1	
	89/336/EEC 93/68/EEC 92/31/EEC EMC	EN61326-1 Kl.B EN61000-3-2 EN61000-3-3	
 year 0103 	90/384/EEC 93/68/EEC Non automatic weighing instruments 1)	EN45501 1)	T7092 1) TC7091 1)

- 1) gilt nur für geeichte Waagen
valable uniquement pour les balances vérifiées
la dichiarazione vale solo per le bilance omologate
vale só para balanças com aferição
dotyczy tylko wag legalizowanych
- 2) nur gültig für KMB-TM/KMS-TM/KMT-TM Terminals in
Verbindung mit zugelassenen Lastzellen
valable uniquement pour les terminaux KMB-TM/KMS-
TM/KMT-TM en liaison avec des cellules de charge
homologuées
valido solo per terminali KMB-TM/KMS-TM/KMT-TM in
collegamento con celle di carico approvate
só válido para os terminais KMB-TM/KMS-TM/KMT-TM
em união com as células de carga admissíveis
ważny tylko dla terminali KMB-TM/KMS-TM/KMT-TM w
połączeniu z dopuszczalnymi ogniwami obciążnikowymi
- 3) nur gültig für TP Wägebrücken in Verbindung mit einem
zugelassenen Waagenterminal
valable uniquement pour les plates-formes TP en
liaison avec un terminal de pesée homologué
valido solo per basamenti TP in collegamento con un
terminale di pesata approvato

applies only to certified balances
sólo aplicable a balanzas verificadas
Geldt uitsluitend voor geijkte weegschalen
platí jen pro cejchované váhy
действует только для поверенных весов
valid only for KMB-TM/KMS-TM/KMT-TM terminals
in connection with approved load cells
sólo válido para terminales KMB-TM/KMS-TM/KMT-
TM en combinación con células de carga aprobadas

uitsluitend geldig voor KMB-TM/KMS-TM/KMT-TM
terminals in verbinding met toegestane drukdozen
platí pouze pro terminály KMB-TM/KMS-TM/KMT-
TM ve spojitosti s přípustnými zátěžovými buňkami.
действительно только для терминалов KMB-
TM/KMS-TM/KMT-TM, связанных с допущенными
грузовыми ячейками
valid only for TP weighing platforms in connection
with an approved weighing indicator
sólo válido para plataformas de pesaje TP en
combinación con un terminal de balanza aprobado

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 in the manufacturing company. It comprises all tests according EN45501-8.2.2. In regards to scales with analogue connection to the weighing-platform, a weighing test according to EN45501-3.5.3.3 must be carried out additionally. This test is not necessary if the terminal bears the serial-number of the weighing-platform.		
Deutsch	Wichtiger Vermerk für geeichte Waagen in EU-Ländern	
	Werksg geeichte 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. Bei Waagen mit analogen Wägebrückenanschluss muß zusätzlich die Richtigkeit gemäß EN45501-3.5.3.3 geprüft werden. Diese Prüfung ist nicht notwendig, wenn das Terminal die Serien-Nr. der Wägebrücke trägt.		
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. Pour les instruments de pesage avec une connexion analogique à la plate-forme de pesage, un essai de pesage suivant la norme EN45501-3.5.3.3 doit être effectué en plus. Cela n'est pas nécessaire si le terminal porte le numéro de la plate-forme de pesage.		
Español	Nota importante para balanzas verificadas en países 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 características 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 la norma EN45501-8.2.2. Para las básculas con plataforma de pesaje con salida analógica debe realizarse además el ensayo según EN45501-3.5.3.3. Este ensayo no es necesario si el terminal lleva el número de la plataforma de pesaje.		
Italiano	Nota Importante per le 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 di riferimento EN45501-8.22. Riguardo le bilance con connessione analogica a piattaforma di pesata, una ulteriore prova deve essere eseguita in accordo alla norma EN45501-3.5.3.3. Questa prova non è necessaria se il terminale porta il numero di serie della piattaforma.		

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 uitgevoerd. Deze stap omvat alle tests overeenkomstig EN45501-8.2.2. Bij weegschalen met een analoge weegbruggeaansluiting 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 adesivo 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. Abarca todas as homologações segundo EN45501-8.2.2. Nas balanças com uma conexão analógica da ponte de pesagem, há que controlar também a exactidão segundo EN45501-3.5.3.3. Esta inspecção não é necessária se o terminal leva o número de série da ponte de pesagem.	
Česky Důležitost 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. Zahnuje všechny testy podle EN45501-8.2.2. V případě vah s analogovým připojením vážního můstku se musí navíc zkontrolovat správnost podle EN45501-3.5.3.3. Tato kontrola není potřebná, jestliže je na terminálu výrobní číslo vážního můstku.	
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. W przypadku wag z analogowym złączem pomostu wagi należy dodatkowo skontrolować poprawność zgodnie z EN45501-3.5.3.3. Taka kontrola nie jest konieczna, gdy terminal posiada numer seryjny pomostu wagi.	
Русски Примечание для поверенных весов в странах ЕЭС	
	Поверенные на заводе весы помечаются вышеуказанным символом на упаковочной этикетке и зеленой наклейкой "М" на табличке поверки. Они могут немедленно приниматься в эксплуатацию.
	Весы, которые поверяются в два этапа и не имеют зеленой наклейки "М" 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. У весов с аналоговым подключением грузоприемного устройства необходимо дополнительно проверить правильность согласно EN45501-3.5.3.3. Эта проверка не нужна, если терминал имеет серийный номер грузоприемного устройства.	

Date: 27.02.2007

Signature: 

Gottl. KERN & Sohn GmbH
Management

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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 indiquée 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 son 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 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 símbolo 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 tabela 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 /geo- graphical 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