

Bedienungsanleitung

Mode d'emploi

Instrucciones de manejo

Istruzioni d'uso

Zählwaage

Balance de contage

Bilancia di recuento

Bilancia per conteggio



METTLER TOLEDO

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1 General information

1.1 Safety instructions

For best performance of your counting scale, read this manual carefully before operating or servicing the equipment!

- Always disconnect the device from the power supply prior to installing, servicing, cleaning or performing maintenance work to avoid electric shock or damage to the scale.
- Do not flush the scale with water. Use a damp cloth to clean the scale or load plate.
- Do not use acids, alkalis, strong solvents or other chemicals to clean the device. They corrode the surface of the scale and damage internal devices.
- The device is a high precision instrument. Maintain the device carefully. Do not place objects of heavy weight on the scale.
- Ensure that only authorized personnel opens the device.
- Ensure that the supply voltage at the installation site is between 100 V and 240 V.
- Check the power cable regularly for damage. If it is damaged, disconnect the device immediately from the power supply.

1.2 Power supply connection



CAUTION

Risk of electric shock!

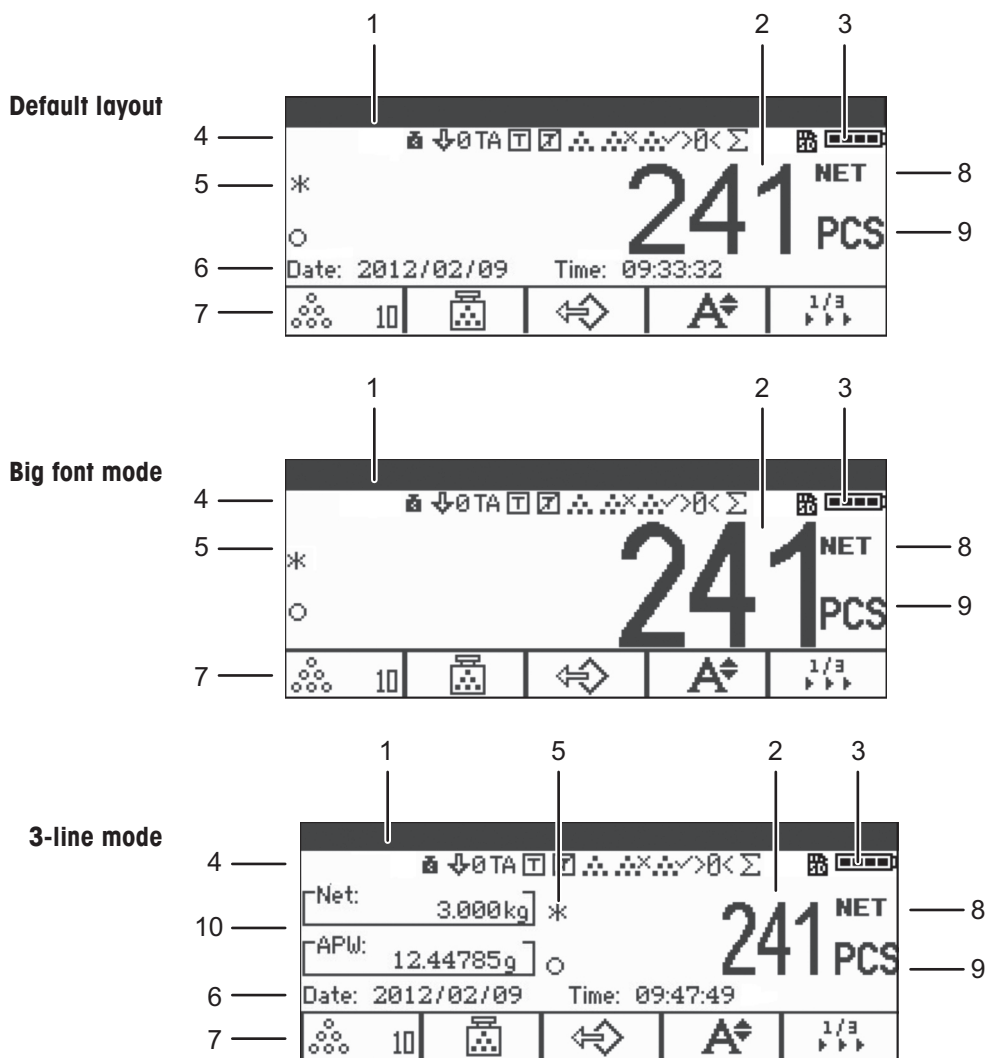
- ▲ Before connecting the device to the power supply, check whether the voltage requirements indicated on the rating plate correspond with your local voltage.
- ▲ Do not under any circumstances connect the device to the power supply, if the voltage requirements indicated on the rating plate do not correspond with your local voltage.
- ▲ Ensure that the scale has reached room temperature before switching on the device.

- Plug the power plug into the power socket.
After it has been connected, the device runs a self-test.
The device is ready for operation when zero appears on the display.

1.3 Introduction

1.3.1 Display

Three different display layouts are selectable in the Terminal menu.



- 1 Metrological data line (for details see page 6)
- 2 Gross/net display
- 3 Battery symbol
- 4 Symbol and info line (for details see page 7)
- 5 Weight value with star, minus sign and stability monitor (for details see page 6)
- 6 Auxiliary data (can be defined in the Terminal menu)
- 7 Customized soft keys
- 8 Net/gross
- 9 Unit
- 10 Net/average piece weight (piece counting mode) or gross/tare (straight weighing mode)

Metrological data line*

In the metrological data line, the following information is displayed:

Symbol	Information	Remark
	Accuracy classes	Displayed only if the scale is approved according to the Weights and Measures guidelines.
Max , cap	Maximum capacity	—
Min	Minimum capacity	Displayed only if the scale is approved according to the Weights and Measures guidelines.
e =	Approved resolution	Displayed only if the scale is approved according to the Weights and Measures guidelines.
d =	Display resolution	Displayed only if the scale is not approved or d is different from e.
Approved scale	Approved weighing device	Metrology display disabled. Weights and Measures data must be indicated on a label near the weight display.

*Only for OIML approval.

Weight display

The weight value can be marked with the following symbols:

Symbol	Information	Remark
*	Calculated weight value	E.g., weight hold status or sample weight below the minimum sample weight.
—	Minus sign	In case of negative weight values.
○	Stability monitor	In case of unstable weight values.

Symbols and info line

In the symbols and info line the following information can be displayed:

Symbol	Information	Remark
	Weight below minimum weight	MinWeigh must be activated in the menu.
	Automatic taring	Auto Tare must be activated in the menu.
	Automatic clearing of the tare weight	Auto Clear Tare must be activated in the menu.
	Center of zero indication	Availability depends on local Weights and Measures regulations.
	Checkweighing to zero	To zero must be assigned to a soft key in the menu.
	Take away mode	Take away must be assigned to a soft key in the menu.
	Auto sampling	Auto sampling must be activated in the menu.
	Auto clear APW (average piece weight)	Auto clear APW must be activated in the menu.
	APW (average piece weight) optimization	APW optimization must be activated in the menu.
	Auto totalize	Auto totalize must be activated in the menu.

Device information

ICS241 offers the possibility to configure the following device information to identify the device according to your company's needs:

- Device identifier
- Device location

In addition, the device name provides the complete type information provided "ex factory", e.g., ICS241-03002.

This device information can be used as follows:

- Displayed in the auxiliary line of the display
 - Displayed via **i**.
 - Printed/transferred together with the weight value
- ➔ Ask your METTLER TOLEDO service technician to configure device identifier and device location according to your specific requirements.

1.3.2 Function keys



Key	Name	Function in the operating mode	Function in the menu
	Power	- Switch on and off - Cancel editing	- Abort editing - Exit menu
	Clear	- Clear tare - Leave info page	- Clear value - Clear numbers or characters
	Switch	Switch over weight unit	Switch input method in edit status
	Zero	- Set scale to zero - Clear tare	—
	Tare	- Tare scale - Clear tare	—
	Info	- Activate info screen - Proceed to next info line/info page - Freeze and release startup screen	—
	Transfer	- Transfer data to a printer or computer - Long key press: Call up menu	- Enter menu item (scroll right) - Confirm entry/selection
	Alpha number	Value presetting, e.g., tare, piece weight or reference n	- Edit numbers, change menu settings - Edit characters, change article info

1.3.3 Soft keys

To meet your specific application requirements, ICS241 offers 12 soft keys which can be configured in the Terminal menu. The soft keys are divided into three lines (pages).

Default setting

Page 1 (single scale version)

Reference 10	Average piece weight	Recall	Display	

Page 2

Store	Target	ID1	ID2	

Page 3

Log files	Totalize			

Operating soft keys

→ Press the key below the desired function.

Changing soft key line

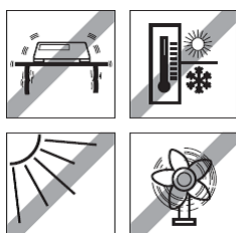
→ Press the ►►► soft key to switch from page 1 to page 2 to page 3 and vice versa.

Possible soft key settings

Symbol	Menu setting	Function
→◆	Target	Set checkweighing/checkcounting parameters
↔◆	Recall	Recall article parameters from the database
→◇	Store	Store article parameters in the database
A◆	Display	Switch display mode
TA	Take away	Activate/deactivate Take away mode
↓0	To zero	Set checkweighing/checkcounting to zero
ID1	ID1	Enter identification 1
ID2	ID2	Enter identification 2
⋯	Reference n	Determine the average piece weight
⊞	Average piece weight	Enter the average piece weight
⊞✓	APW opt.	Average piece weight optimization
⋯+	Totalize	Totalizing application
☰	Log files	Checkweighing data logs

1.4 Commissioning

1.4.1 Selecting the scale location



The correct location is important for the accuracy of the weighing results.

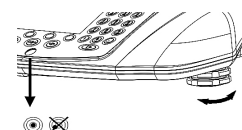
→ Select a stable, vibration-free and horizontal location for the scale.

→ Observe the following environmental conditions:

- No direct sunlight
- No strong drafts
- No excessive temperature fluctuations

1.4.2 Levelling the scale

Only scales that have been precisely leveled horizontally provide accurate weighing results. Scales approved by Weights and Measures are equipped with a spirit level to simplify levelling.



Level the scale as follows:

1. Turn the levelling feet of the scale until the spirit level's air bubble is inside the inner circle (see picture).
2. Tighten the lock nuts of the levelling feet.

2 Basic operation

2.1 Switching on and off

2.1.1 Switching on

→ Press .

For a few seconds, the device shows a start-up screen with device name, software version, serial number of the scale and the Geo value.



- You can freeze the start-up screen by pressing **i**.
- Press **i** again to unfreeze the screen and return to normal start-up.

2.1.2 Switching off

→ Press .

Before the display shuts down, **–OFF–** is displayed briefly.

2.2 Zeroing/zero point correction

2.2.1 Manual zeroing

1. Unload scale.
2. Press **→0←**.

The scale is set to zero.

2.2.2 Automatic zeroing

In the case of non-approved scales, the automatic zero point correction can be deactivated in the menu or the zero range can be changed. Approved scales are fixed to 0.5 d.

By default, the zero point of the scale is automatically corrected when the scale is unloaded.



- The zero function is only available within a limited weighing range.
- After zeroing the scale, the whole weighing range is still available.
- Zeroing will always delete the tare weight.

2.3 Straight weighing

1. Place the weighing sample on the scale.
Wait until the stability monitor symbol  disappears.
2. Read the weighing result.

2.4 Weighing with tare

2.4.1 Taring

- Place an empty container on the scale and press **→T←**.
The scale is set to zero and the **NET** symbol is displayed.
The tare weight remains stored until it is cleared.

2.4.2 Clearing the tare

- Press **C**.
The **NET** symbol and the gross weight appear on the display.



If the  symbol is displayed, the automatic clearing of the tare weight function is activated in the *Scale -> Tare* menu and the tare weight is automatically cleared as soon as the scale is unloaded.

2.4.3 Automatically clearing the tare

The tare weight is automatically cleared when the scale is unloaded.

Prerequisite

- ✓ The  symbol is displayed, the automatic clearing of the tare weight function is activated in the *Scale -> Tare* menu.

2.4.4 Automatic taring

If you place a weight on an empty scale, the scale tares automatically and the **NET** symbol is displayed.

Prerequisite

- ✓ The  symbol is displayed, the automatic clearing of the tare weight function is activated in the *Scale -> Tare* menu.



The weight can be tared automatically when packaging material is heavier than 9d.

2.4.5 Chain taring

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

Prerequisite

- ✓ The **Chain tare** tare function is activated in the *Scale -> Tare* menu.
1. Place the first container or packaging material on the scale and press **→T←**.
The packaging weight is automatically saved as tare weight, the scale is set to zero and the **NET** symbol is displayed.
 2. Weigh the weighing sample and read/print the result.
 3. Place the second container or packaging material on the scale and press **→T←** again.
The total weight on the scale is saved as new tare weight.
The scale is set to zero.
 4. Weigh the weighing sample in the second container and read/print the result.
 5. Repeat steps 3 and 4 for the further containers.

2.4.6 Tare preset

If you know the weight of your containers, you can scan barcodes or input SICS commands to enter the tare weight, so you do not have to tare the empty container, see section 4.5.2, page 39.

Prerequisite

✓ Destination of **External input mode** set as **Preset tare**.

1. Enter the known tare weight by scanning barcodes or input SICS commands.
The display shows the negative tare weight and the **NET** symbol is displayed.
2. Place the full container on the scale.
The net weight is displayed.



The entered tare weight is valid until a new tare weight is entered or the tare weight is cleared.

2.5 Working with identifications

Two identification numbers (ID1 and ID2) with up to 40 characters can be assigned to weighing series. The identifications are also printed out in the protocols. If, for example, a customer number and an article number are assigned, the protocol shows which article was weighed for which customer.

You can enter the ID via barcode scanning (only one of the IDs can be entered):

- Set ID1 or ID2 as destination of External input mode.
- ID1 or ID2 can be displayed in the auxiliary line.

You can enter IDs via SICS command (ID1 and ID2 can be entered separately):

- ID1 or ID2 can be displayed in the auxiliary line.

2.6 Printing results

If a printer or computer is connected, weighing results and other information can be printed or transferred to the computer.

→ Press .

The defined data is printed or transferred to the computer.



The printout content can be defined in the `Templates` menu.

2.7 Verification test*

The weighing instrument is verified in the following cases:

- The accuracy class is displayed in the metrological line.
- The securing seal has not been tampered with.
- The warranty is not expired.

The weighing instrument is also verified in the following cases:

- **Approved scale** is displayed in the metrological line.
- Labels with the metrological data are positioned near the weight display.
- The securing seal has not been tampered with.
- The warranty has not yet expired.



The duration of verification of is country-specific. It is in the responsibility of the owner to renew verification in due time.

ICS241 counting scales use a Geo code to compensate for gravitational influence. The manufacturer of the weighing instrument uses a defined Geo code value for verification.

→ Check if the Geo code in the instrument corresponds with the Geo code value defined for your location.



The Geo code value is displayed when you switch on the instrument.

The Geo code for your location is shown in the Appendix.

→ Contact your METTLER TOLEDO Service if the Geo code values do not match.

*Only for OIML

2.8 Display information

For the **i** key, up to 20 different display items can be configured in the `Info key` menu. Depending on the configuration in the `Terminal -> Device -> Keyboard -> Info key` menu, the following data can be assigned in a free order, e.g.:

- Date & time
- Weight values
- Identifications
- Device information

1. Press **i**.
The (first) info screen is displayed (depending on the device).
2. Press **i** again.
With one info screen only, the weight screen is displayed.
With several info screens, the next info screen is displayed.
3. With several info screens press **C** to exit the info screens.



The info screen is displayed until **i** is pressed again or **C** is pressed.

3 Application

3.1 Piece counting

3.1.1 Piece counting with a fixed number of reference pieces

Prerequisite

✓ The corresponding  n soft key is activated in the `Terminal` menu.

1. Place the reference parts on the scale.



2. If it is the default number of reference parts, press  n.
Otherwise, enter the number of reference parts and press  n.
n specifies the number of reference piece.



The number of reference pieces is displayed: the value of n.



- The average piece weight is valid until a new average piece weight is determined.
- The auxiliary line and the info page can be configured to show the average piece weight.

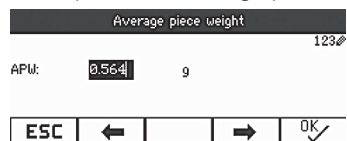
3.1.2 Piece counting with a known piece weight

Prerequisite

✓ The corresponding  soft key is activated in the `Terminal` menu.

1. Press .

Input of the average piece weight (APW) is requested.



2. Enter the average piece weight and confirm with .
The weight unit switches to **PCS**.

- Place the parts to be counted on the scale.
The number of pieces is displayed.



- You can enter the average piece weight via barcode, if the external input destination is set to **Average piece weight**.
- The average piece weight is valid until a new average piece weight is determined.

3.1.3 Exit piece counting

→ Press **C**.

Clear is displayed on the screen.

The average piece weight is cleared and the weight value is displayed.

The device operates in straight weighing mode.

3.1.4 Piece counting with reference optimization

Reference optimization serves to re-calculate a new average piece weight using a greater number of reference pieces.

Reference optimization can be performed either manually or automatically

Manual reference optimization

Prerequisite

- ✓ For manual reference optimization, the  soft key is activated in the **Terminal** -> **Device** -> **Keyboard** -> **Soft keys** menu.
 - ✓ The  soft key is only available in the counting mode.
 - ✓ The average piece weight is obtained via sample counting, not fixed input.
- Determine the average piece weight as described in section 3.1.1, page 14.
 - Add additional reference pieces.
The total number of two countings is displayed.
 - Press .
- The new average piece weight is obtained.



- The additional number of reference pieces must be less than the first number of reference pieces.
- If there is a great difference between the results of the second average piece weight and the first average piece weight, the **Optimization** function cannot be executed.

Automatic reference optimization

Prerequisite

- ✓ Automatic reference optimization is activated in the Application -> Auto totalize -> Activate menu (**Auto totalize** is only available in the counting mode) and  is displayed
- ✓ The average piece weight is obtained via sample counting, not by entering the APW.

1. Carry out piece counting with a fixed number of reference pieces. (Repeat steps 1-3 of section 3.1.1, page 14).
2. Add additional reference pieces.
The total number of the two countings is displayed, the function of optimization is enabled after the number is stable.
The new average piece weight is obtained.



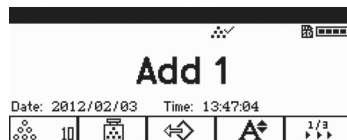
- The second number of reference pieces must be lower than the first number of reference pieces.
- If the difference between the result of the second average piece weight and the first average piece weight is greater, the **Optimization** function cannot be executed.

3.1.5 Minimum sample weight

In order to obtain a more precise average piece weight during reference number counting, minimum resolution can be specified to set minimum sample weight.

Prerequisite

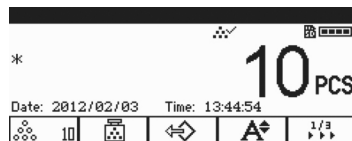
- ✓ The minimum percentage accuracy of the reference weight is specified in the Application -> Count -> Min. sample weight menu.
1. Calculate the average piece weight as described in steps 1 and 2 of section 3.1.1, page 14.
If the scale has determined that the percentage accuracy for the reference weight is below the value set as minimum sample weight, it calculates the number of pieces that you have to place on the scale to reach the desired percentage accuracy.



2. Place the indicated number of pieces on the scale.
The average piece weight is optimized.



It is possible to override the minimum sample weight checking by pressing the **C** key when you are prompted to add pieces on the scale. This will enable you to use the calculated piece weight, but note that a * symbol appears on the display to indicate that the sample weight is below the desired percentage accuracy.

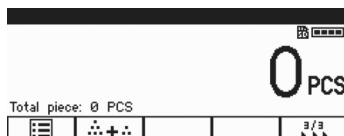


3.2 Totalizing

3.2.1 Manual totalizing

Prerequisite

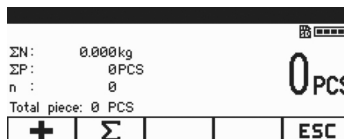
- ✓ The $\Delta+\Delta$ soft key is activated in the Terminal -> Device -> Keyboard -> Soft keys menu.



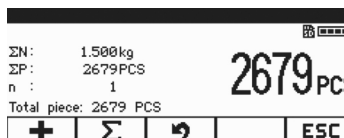
- ✓ If you want to display the totalized result on the screen, specify **Total net** in the auxiliary line (Terminal -> Device -> Display -> Auxiliary line) and/or assign number **n** to the **Info** key (Terminal -> Device -> Keyboard -> Info key).

Totalizing

1. Press $\Delta+\Delta$ to enter the totalization screen in weighing or counting mode.



2. Weigh the first item and press +.
The total net and the number of items are displayed.
3. Unload the scale.



4. Load the next item and press + again.
The total net and the number of items are increased.
5. Unload the scale.
6. Repeat steps 4 and 5 for further items.
If you need to cancel the former step, press $\rightarrow$.
Note: This action only cancels the last operation.
7. When totalization is complete, press Σ .
A **Save** instruction is displayed.
8. Press **YES** to clear the totalized result.
– or –
 $\rightarrow$ Press **NO** to continue totalizing.



Piece counting results and checkweighing/checkcounting results can be totalized the same way.

3.2.2 Automatic totalizing

Prerequisite

- ✓ The function is activated in the `Application -> Auto totalize menu`.
- ✓ The Σ symbol is displayed in the symbols line.
- ✓ Activate **Good print** for under/over checkweighing.
– or –
Activate **Auto print** for other weighing applications.
- ✓ The $\Delta+\Delta$ soft key is activated in the `Terminal -> Device -> Keyboard -> Soft keys menu`.
- ✓ If you want to display the totalized result on the screen, specify **Total net** in the auxiliary line (`Terminal -> Device -> Display -> Auxiliary line`) and/or accumulate number **n** for the **Info** key (`Terminal -> Device -> Keyboard -> Info key`).

Automatic totalizing

1. Press $\Delta+\Delta$ to enter the totalization screen in weighing or counting mode.
2. Load the first item.
If auto print is activated, automatic totalizing is executed and total net & number of items are updated.
If the auxiliary line or info key is set, total net and number of items are displayed in that area.
3. Unload the scale.
4. Load the next item.
The total net and number of items are increased.
5. Repeat steps 2 and 3 for further items.
If you need to cancel the former step, press Δ .
Note: This action only cancels the last operation.
6. When totalization is complete, press Σ .
A **Save** instruction is displayed.
7. Press **YES** to clear the totalized result.
– or –
→ Press **NO** to continue totalizing.



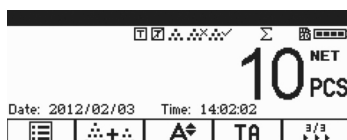
Piece counting results and checkweighing/checkcounting results can be totalized the same way.

3.3 Log files

3.3.1 Activating log files

Prerequisite

- ✓ SD card is inserted and  is displayed in the symbols and info line to indicate that the SD card is properly identified. (SD card: secure digital memory card, a kind of small card inserted into the scale for data storage)
- ✓ If you want to check log files, activate  (**Log files**) in the Terminal -> Device -> Keyboard -> Soft keys menu.



- ✓ If you want to save weighing logs, activate the function in the Application -> Log files -> Activate menu. The default offers the following lines: **Date, Net, Tare, Gross, Scale No.**
- ✓ If you have other requirements, specify **Item 7...10** in the Application -> Log files menu.

3.3.2 Viewing log files

1. In weighing, counting or checkweighing mode, press  to enter the log files screen. The last weighing record is displayed.

000 025	Date:	2012/02/03 14:03:45
000 026	Net:	1.500 kg
000 027	Tare:	1.500 kg
000 028	Gross:	3.000 kg
000 029	Scale No.:	1

Below the table is a row of soft keys: ESC, an up arrow, a down arrow, a double down arrow, and a '1/2' icon with right arrows.

2. Press  /  or numeric keys to display further records. When contents are assigned in **Item 7...10**, more detailed results can be viewed by pressing **i** to turn over the page.

000 025	API:	149.9964 g
000 026	Quantity:	10
000 027		
000 028		
000 029		

Below the table is a row of soft keys: ESC, an up arrow, a down arrow, a double down arrow, and a '1/2' icon with right arrows.

Printing log files

1. When weighing (transaction) records are displayed, press  to flip soft key pages.
The second page of soft keys is displayed.
2. Press  to display the printing options.

000 025	Date:	2012/02/03 14:03:45	
000 026	Net:	1.500 kg	
000 027	Tare:	1.500 kg	
000 028	Gross:	3.000 kg	
000 029	Scale No.:	1	
ESC			

The following printing options are available:

- Print selected record
- Print whole memory
- Print today's records
- Print records by number
- Print records by date

Transaction info			
Print selected record	Print records by number		
Print whole memory	Print records by date		
Print today's records			
ESC			

3. Press  /  to select the required option and press  or  to confirm.
4. If the option **Print records by number** or **Print records by date** is selected, enter start number / end number or start date / end date.
5. Press .

All selected weighing (transaction) records are printed.

Transaction info			
Start number:		123	
End number:	29		
ESC			OK 

3.3.3 Searching weighing records

Prerequisite

✓ Weighing (transaction) records are displayed.

1. Press .
2. Press  to select search criteria: **Search by date** or **Search by rec. No.**
3. Press  to confirm.
4. Enter weighing record number or date and press  to confirm.
The required weighing info is displayed.

Deleting log files

The action is operated in the Application -> Log files -> Weighing info log menu.

Application - Log files			
Item 8	Start?		
Item 9			
Item 10			
Delete all			
			

3.4 Checkweighing/checkcounting

The device offers checkweighing/checkcounting functions. The respective settings in the menu are described in the Application menu section, see section 4.3, page 32.

Prerequisite

✓ The soft keys for checkweighing/checkcounting are activated in the `Terminal` menu.

3.4.1 Checkweighing/checkcounting tolerance types

Different entries are required at the beginning of checkweighing or checkcounting, depending on the tolerance type setting.

Tolerance type "Absolute"

A low and a high weight value must be entered. These weights and all weights within this range are treated as being within tolerance.

Tolerance type "Relative"

Target weight (**Target**) as well as lower tolerance (**Tol -**) and upper tolerance (**Tol +**) have to be specified. The tolerances are displayed as relative deviations from the target weight.

Tolerance type "Percent"

Target weight (**Target**) as well as lower tolerance (**Tol -**) and upper tolerance (**Tol +**) have to be specified in percent. At checkweighing the weight value is represented as a percentage of the target weight. Either target weight 100 % is striven for, or 0 % in the over/under checkweighing to zero mode.

3.4.2 Specifying target values

The following section describes the procedure with regard to the factory setting of the checkweighing/checkcounting application.

1. Press .

The current checkweighing parameters are displayed.

Target definition			
Tol.type:	Absolute	123	
Low:	1.500	kg	
High:	0.000	kg	
ESC			OK ✓

2. Use  to change the tolerance type and  to proceed to the first low target.
If a tolerance type is selected in the menu, this step is skipped.

3. Enter the requested weight and press .

The next parameter is highlighted.

Target definition			
Tol.type:	Absolute	123	
Low:	1.500	kg	
High:	0.000	kg	
ESC			OK ✓

4. Repeat step 3 until **New target set!** is displayed.

The checkweighing screen is displayed, the scale is ready for checkweighing.



- If tolerance default values have been set in the menu, only the target has to be specified with tolerance types **Relative** and **Percent**.
- The upper tolerance value has to be greater than or equal to the lower one (**High** ≥ **Low**) or, respectively, the target weight has to be greater than or equal the lower tolerance value and smaller than or equal the upper tolerance (**Tol +** ≥ **Target** ≥ **Tol -**).

3.4.3 Specifying target number of pieces

Prerequisite

- ✓ At least one of the n or counting soft keys is activated.

Determining the piece weight

- Proceed as described in section 3.1.1 or section 3.1.2, page 14.



- For alternate procedures to determine the piece weight refer to the counting section, see section 3.1, page 14.
- If you use the unit **PCS**, the tolerance type percent is not available.

Weighing in the target number of pieces

- Proceed as described in section 3.4.2, page 21.

The display unit is **PCS**.

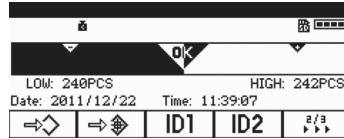
Target definition			
Tol.type:	Absolute		123
Low:	10	PCS	
High:	0	PCS	
ESC			OK ✓

3.4.4 Checkweighing/checkcounting display

Prerequisite

- ✓ Target for weighing or counting has been set.

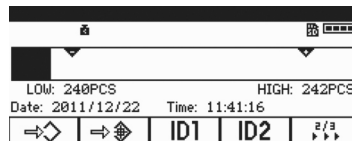
Default layout



Weight within tolerance



Overweight



Underweight

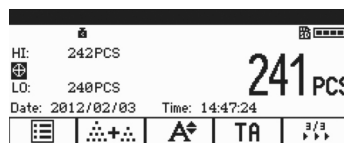
Big font mode



In big font mode, the soft keys line automatically disappears if no key is pressed for 2 seconds. The checkweighing status information is displayed instead.

Once a soft key is pressed, the checkweighing status info is replaced by the soft keys line again.

3-line mode



If the checkweighing result meets the specified checkweighing range requirement, the target value line $\oplus$ will be highlighted, indicating that the current result meets the checkweighing range requirement.

3.5 Using stored preset parameters

3.5.1 Storing article parameters

Article parameters include:

- Preset tare
- Average piece weight
- Article number
- Article name

Tolerance type, target weight and tolerance can be saved during checkweighing application.
A maximum of 50 target values can be stored in the terminal.

In straight weighing, piece counting or checkweighing mode:



1. Press .

The first record number with the status **free** is displayed.



2. If necessary, you can choose a record using / or numeric keys.
3. Press .
4. Press  to edit article number and article name.



Record stored! appears briefly on the screen.

The record is stored under the selected number.

If the selected record is already occupied, the message **Occupied** is displayed.

1. If you want to overwrite the old record, press .

Overwrite record? is displayed.

2. Press **Yes** to overwrite or press **No** to cancel.

If article number or article name already exists, the more recent article number or article name cannot be stored.

In this case **Overwrite record?** is displayed.

3. Press **Yes** to overwrite or press **No** to cancel and re-edit.

Quick store

- After defining article parameters, enter a free record number and press .
- The article parameters are stored!

3.5.2 Recall stored record

1. Press .

The first available record is displayed.

2. Enter the required record number or choose a record using  / .

3. Press .

Record loaded! appears briefly on the screen.

The display returns to the weighing screen.

Tare, average piece weight, article number, article name or checkweighing/checkcounting parameters are specified based on the preset parameters.

Quick recall

- Enter the required record number and press .

3.6 Entering letters and numbers

ICS241 supports the input of numbers, English letters and punctuation. A large amount of information can be entered via keyboard, e.g. article information, article number, ID1, ID2.

When letter or number input is required, one of the following symbols is displayed in the upper right corner of the screen:

- : Numeric input.
 - : Capital letters and other special characters.
 - : Lower-case letters and other special characters.
- Press  to switch between capital letters and lower-case letters.
- Text input on your device corresponds with text input on a cellphone.
Up to four characters are assigned to the keys of the numeric keyboard.
- Confirm input pressing the key .

Example: Entering the sequence "ICS241"

1. Ensure  is displayed.
2. Press key 4 three times to enter letter "I".
3. Press key 2 three times to enter letter "C".
4. Press key 7 four times to enter letter "S".
5. Press key  two times to switch to numeric entry.
6. Enter digit 2.
7. Enter digit 4.
8. Enter digit 1.
9. Press key  to confirm.

4 Menu settings

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

The menu consists of the following 5 main blocks containing various submenus on several levels.

Scale	see section 4.2, page 29
Application	see section 4.3, page 32
Terminal	see section 4.4, page 35
Communication	see section 4.5, page 38
Maintenance	see section 4.6, page 43

4.1 Operating the menu

4.1.1 Calling up the menu and entering the password

The menu has 2 different 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 hold  until **Enter code** is displayed.
2. Press  again.

The **Terminal** menu is displayed. Not all submenus are accessible.

Supervisor menu

1. Press and hold  until **Enter code** is displayed.
2. Enter the password and confirm with .

The first menu item **Scale** is highlighted.



When the device is delivered, no supervisor password is set. Therefore, confirm the password inquiry when you call up the menu for the first time.

If no password is entered for a few seconds, the scale returns to weighing mode.

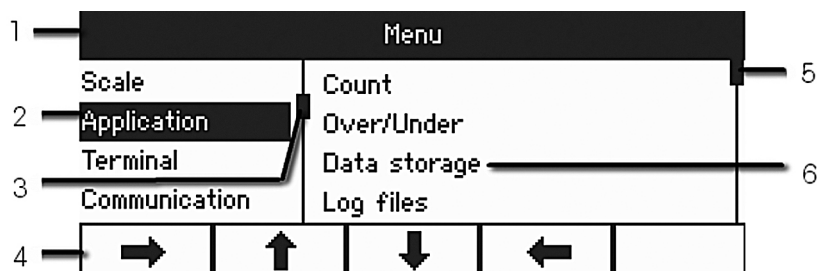
Emergency password for supervisor access to the menu

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

1. Press and hold **→0←** until **Enter code** is displayed.
2. Press **→0←** 3 times and confirm with .

Display presentation in the menu

Menu items are displayed together with their paths. The following example shows the menu start screen.



- 1 Menu info line: menu path of the current menu item
- 2 Menu items: the selected menu item is highlighted
- 3 Scroll flag (left, like the scroll bar of your PC)
- 4 Navigation line
- 5 Scroll flag (right, like the scroll bar of your PC)
- 6 Submenu items

4.1.2 Numeric operation in the menu, e.g., entering a date

Changing highlighted digits

- 1. Directly use digital keyboard (0–9) to enter the digit.
- 2. Press **→** to move to the next digit (right of the current one) or press **←** to move to previous digit (left of the current one).
- 3. Repeat steps 1 and 2 until all digits are set.
- 4. Press **↵** to confirm.

4.1.3 Exit Menu

- 1. Press **⏻**.
The last menu item **End** is displayed. **Save settings?** is displayed.
- 2. Press **OK** or **↵**.
Menu changes are saved and the terminal returns to the weighing mode.
-or -
→ Press **ESC** and return to menu settings.
-or -
→ Press **NO** to discard changes and return to the weighing mode.

4.1.4 Selecting and setting parameters in the menu

Example: Setting of the Chain tare function

1. In the menu start screen press the soft key  to switch to the right side.
The first submenu **Application** is highlighted.
 2. Use  /  to select **Tare**.
The Tare submenus are displayed on the right side.
 3. Press  to open the selected Tare menu item.
The Tare submenus are displayed on the left side.
 4. Use the soft keys  /  to select **Chain tare**.
The current chain tare setting is displayed on the right side.
 5. Press the soft key  to open the selected Chain tare menu item.
All possible chain tare settings are displayed, the current setting is highlighted on the right side.
 6. Use  /  to change the chain tare setting.
 7. Confirm your changes with  or soft key .
- Note:** If chain tare is displayed, either soft key  or transfer key  can be used to confirm settings.

4.2 Scale menu

Factory settings are printed in **bold** in the following overviews.

4.2.1 Overview

Level 1	Level 2	Level 3
Calibration		
Display/Units	Unit 1	g, kg , oz, lb, t
	Unit 2	g , kg, oz, lb, t
	Resolution	0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05
	Unit roll	On, Off
Zero	AZM	Off, 0.5d , 1d, 2d, 5d, 10d
Tare	Auto tare	Off , On
	Chain tare	Off, On
	Auto clear tare	Off , On, 9d
Restart	Off , On	
Filter	Vibration	Low, Medium , High
	Process	Universal , Dosing
	Stability	Fast, Standard , Precise
MinWeigh	Function	Off , On
Reset	Perform Reset?	

4.2.2 Description of the Scale Menu Block

Scale → Calibration

This menu item is not available for verified scales.

Perform calibration?	1. Unload scale. 2. Start calibration with . The scale determines the zero point. -0- appears on the display. The calibration weight to be placed on the scale flashes on the display. 3. If necessary, change the displayed weight value with →T←. 4. Place the calibration weight on the scale and confirm with . The scale calibrates with the calibration weight loaded. After calibration is complete, -Done- appears briefly on the display.
Note	The calibration process can be cancelled by pressing  .

Scale → Display/Units – Weighing unit and display accuracy

Unit 1	Select weighing unit 1: g, kg , oz, lb, t
Unit 2	Select weighing unit 2: g , kg, oz, lb, t
Resolution	Select readability (resolution). The possible settings depend on the connected scale capacity.
Unit roll	When unit roll is switched on, the weight value can be displayed in all available units with  .
Notes	In case of verified scales, individual sub-items of the Display menu item may not be available or only to a limited extent, depending on the respective country.

Scale → Zero – Automatic zero update

AZM (Automatic zone maintenance)	On verified scales, this menu item is not displayed. Switching on/off automatic zero update and selecting zeroing range. Possible settings: Off; 0.5 d; 1 d; 2 d; 5 d; 10 d
----------------------------------	---

Scale → Tare – Tare function

Auto tare	Switch on/ off automatic taring.
Chain tare	Switch on /off chain tare
A-Clear tare	Switch on/off automatic clearing of the tare weight when the load is removed from the scale. • On: The tare weight is automatically cleared if the gross weight is 0 or below. • Off: No automatic clearing of the tare weight. • 9 d: The tare weight is automatically cleared if the gross weight is within +/- 9 display steps.

Scale → Restart – Automatic saving of zero point and tare value

Restart	When the restart function is activated, the last zero point and the tare value are saved. After switching the scale off/on or after a failure of the power supply, the device continues to work with the saved zero point and tare value.
---------	---

Scale → Filter – Adaptation to the ambient conditions and the weighing type

Vibration Low Medium High	Adaptation to the environment conditions. • Very steady and stable environment. The scale works very rapidly, but is very sensitive to external influences. • Normal environment. The scale operates at medium speed. • Unsteady, unstable environment (slight vibrations). The scale works more slowly, but is less sensitive to external influences.
Process Universal Dosing	Adaptation to the weighing process. • Universal setting for all weighing samples and normal weighing goods. • Dispensing liquid or powdery weighing samples.
Stability Fast Standard Precise	Adjust the stability detector. • 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.

Scale → MinWeigh – Minimum weighing value

Before you can use this function, your METTLER TOLEDO service technician has to determine and to enter a minimum weight value.

Function	Switch minimum weight function on/off. If the weight on the scale drops below the stored minimum weight,  appears in the symbols and info line.
----------	---

Scale → Reset – Resetting scale settings to factory settings

Perform reset ?	Confirmation inquiry: • Reset the analog scale settings to factory settings with YES. • Do not reset scale settings with NO.
-----------------	---

4.3 Application menu

Factory settings are printed in **bold** in the following overviews.

4.3.1 Overview

Level 1	Level 2	Level 3	Level 4
Count	Reference n	1-60000	
	Min. sample weight A	Off, 97.5 %, 99.0 %, 99.5 %	
	Accurancy display	Off, On	
	APW (average piece weight) optimization	Off, On	
	Auto sampling	Off, On	
	Auto clear APW (average piece weight)	Off, On	
Over/Under	Tolerance	Off, Absolute, Relative, Percent	
	Default values	Activate	Off, On
		Relative weight	Tolerance-, Tolerance+
		Percent weight	Tolerance-, Tolerance+
		Relative pieces	Tolerance-, Tolerance+
	Output	Good print	Off, On
Data storage	Article name	Activate	Off, On
	Article number	Activate	Off, On
	Delete all	Start?	
	Delete record		
	Print records ?		
Log files	Activate	Off, On	
	Item 7 ... Item 10	Not used, Average piece weight, Quantity, Article name, Article number, ID1, ID2, Device identifier, Device location, SNR (serial number) scale	
Auto totalize	Activate	Off, On	
Reset	Perform reset?		

4.3.2 Description

Application → Count

Reference n	Set number of reference parts (1–60'000). After setting the number, the n in the  n soft key automatically displays the set number.
Min. sample weight	Set the minimum sample weight. • Off: no requirement to sample weight. • 97.5%, 99.0%, 99.5%: The interface will remind the user that more pieces need to be added to reach the defined sample weight.
APW opt. (average piece weight optimization)	Activate/ deactivate APW optimization function. After activation, the precision of the average piece weight can be improved by adding more reference pieces. Note: If the  symbol is displayed in the info line, the added number of reference pieces must be smaller than the current number of pieces, otherwise the function will be invalid.

Application → Count – Auto sampling & Auto clear APW

Auto sampling	Activate/deactivate auto sampling. After activation, the  symbol is displayed in the info line. → Load samples on the scale. The number of samples must be equal to the reference number . Once the sample is steady, the terminal performs auto sampling. The information on the display changes from sample weight to the number of samples piece.
Auto clear APW (average piece weight)	Activate/deactivate auto clear APW (average piece weight). After activation, the  symbol is displayed in the info line. → When unloading the scale, the APW is cleared. Once the sample is steady, the terminal performs auto clear APW, exits counting mode and returns to weighing mode.

Application → Log files – Set log files

Activate?	If activated, all weighing information will be saved in log files on the SD card (secure digital memory card). The SD card slot is found on the front of the scale. You can insert the card if you need to use the log files function.
Item 7 ... Item 10	In addition to the 6 fixed items, further information can be saved. 1. Select the item number. 2. Assign contents to this item. Before you delete all the stored weighing records, a warning message is displayed.

Application → Over/Under – Set checkweighing parameters

Tolerance type	Specify which parameters have to be entered for checkweighing.
Off	No tolerance type predefined. It can be set individually when entering checkweighing/checkcounting parameters.
Absolute	A low and a high tolerance value must be entered. These weights and all weights within this range are treated as being within tolerance.
Relative	The target weight has to be entered as an absolute weight, upper and lower tolerances as weight deviations from the target weight.
Percent	The target weight has to be entered as an absolute weight, upper and lower tolerances as deviations in percent from the target weight. Not possible for counting.
Default values	If you always use the same tolerances for checkweighing/checkcounting, you can store these tolerances and thus avoid entering tolerances all the time.
Activate	Activating usage of default tolerance values: • Off: Default tolerance values not used • On: Default tolerance values used
Relative weight	Relative weight: Enter the weight values for Tolerance – and Tolerance + .
Percent weight	Percent weight: Enter the percentages for Tolerance – and Tolerance + .
Relative pieces	Relative pieces: Enter Tolerance – and Tolerance + in pieces.
Output	Set display and printing options.
Good print	Automatic printout. • Off: No automatic printout. • On: Automatic printout when a stable weight value within the tolerance values exists.

Application → Data storage – Set data storage parameters

Article name	Article name and article number can be assigned to each record.
Article number	They are saved as part of a targeted record, which can be displayed, printed or sent. The maximum length of each article name and article number is 40 characters.
Activate	Activate article name or article number to identify checkweighing/checkcounting parameter settings. • Deactivate: Article name and article number cannot be defined during the target definition. • Activate: When you press the target key, you can enter article name or article number via keyboard.
Delete all	Delete all records. Before the records are deleted, a warning message is displayed.
Delete record	Delete one record.
Print records	Print all records.
Note	The data record can be edited via SICS command.

4.4 Terminal menu

Factory settings are printed in **bold** in the following overviews.

4.4.1 Overview

Level 1	Level 2	Level 3	Level 4	Level 5
Device	Language	English, German, Italian, French, Spanish, Korean, Chinese		
	Sleep/Power off	Off, 1 minute, 3 minutes, 5 minutes, 15 minutes, 30 minutes		
	Display	Layout	Default, 3-Line mode, Big font	
		Auxiliary line	Not used, Date & Time , Gross, Net, Tare, High resolution, Average PW, Reference count, Quantity, Article name, Article number, ID1, ID2, Total net, Total piece, n, Record number, Target, Deviation, Device identifier, Device location	
		Contrast	1 ... 10	
		Brightness	1 ... 10	
		Backlight	Off, 5 seconds, 10 seconds, 30 seconds, 1 minute, On	
		Weight hold	0 s ... 10 s	
	Keyboard	Key lock	Power Clear Unit switch Info Transfer Keypad	Lock, Unlock
		Info key	Item 1 ... Item 20	Not used, Date & Time, Gross, Net, Tare, Net & High Res., Average PW, Reference count, Quantity, Article name, Article number, ID1, ID2, Total net, Totalpiece, n, Record number, Target, Tolerance –, Tolerance +, Tolerance type, Deviation, Device identifier, Device location, Dev. name, SNR (serial number) scale, Firmware vers.
	Date & Time	Format	yyyy/mm/dd 24h, dd/mm/yyyy 24h , mm/dd/yyyy 12h	
		Date	yyyy mm dd	
		Time	hh:mm	
		Morning/ Afternoon	Morning/Afternoon	
	Beep	On , Off		
Access	Supervisor	Password		
Reset	Perform reset?			

4.4.2 Description

Terminal → Device – General device settings

Language	Select language. Possible languages: English , German, Italian, French, Spanish, Korean, Chinese.
Sleep (User access)	This menu item is displayed only on devices in mains operation. When Sleep is activated, the device switches off both display and backlighting when not in use for the set period of time and gross weight is zero. Display and back-lighting are switched on again when a key is pressed or when weight is loaded on the scale. Possible settings: Off, 1 min, 3 min, 5 min, 15 min, 30 min (approximate values).
Power Off (User access)	This menu item is displayed only on devices in battery operation mode. When Power Off is activated, the device switches off automatically when not in use for the set period of time. To switch the scale back on again, press  . Possible settings: Off, 1 min, 3 min, 5 min, 15 min, 30 min (approximate values).
Display	Configure the display window. For details see section 1.3, page 5.
Layout	Select the display mode of the weight value. Possible settings: Default, Big font mode, 3-Line mode.
Auxiliary Line	Select the contents of the auxiliary display line. Possible settings: Not used (auxiliary line blank), Date & Time, Gross, Net, Tare, High resolution (weight value in higher resolution), ID1, ID2, Device identifier, Device location, Target, Deviation, Average piece weight, Reference count, Quantity, Record number, Article name, Article number, Total net, Total piece, n.
Contrast (User access)	Set the contrast of the display. Possible settings: 1 ... 5... 10
Brightness (User access)	Set the brightness of the display. Possible settings: 1 ... 5... 10
Backlight (User access)	Determine if the background lighting is to be switched off and after which period of time. By default, devices with a battery switch off the background lighting automatically when no action takes place on the device for approx. 5 seconds. Possible settings: Off (no background lighting), 5 sec, 10 sec, 30 sec, 1 min, On (background lighting always on) (approximate time values).
Weight hold	Determine how long the weighing result is displayed on the screen after  is pressed or auto print is generated. Possible settings: 0 s ... 10 s.

Keyboard	Switch keys on/off and set Info key settings.
Key lock	Select keys to lock/unlock. Possible keys: Power (⏻), Clear (C), Unit switch (↺), Info (i), Transfer (↗), Numeric keypad (0-9).
Info key	Configure up to 20 items to be displayed using the info key (i). 1. Select the item to be configured (Item 1 ... Item 20). 2. Assign contents.
Note	- Locked keys cannot be activated with operator access, but the supervisor can still activate these keys by entering his password. - If you want to lock the tare key (→T←) and/or the zero key (→0←), contact your METTLER TOLEDO service technician.

Date & Time	
Format	Select date format. Possible settings: yyyy/mm/dd 24h, dd/mm/yyyy 24h, mm/dd/yyyy 12h
Date	Set date in the selected format. yyyy/mm/dd, dd/mm/yyyy, mm/dd/yyyy
Time	Set time in the following format: hh:mm
Morning/Afternoon	When time zone is selected, set AM/PM.

Beeper	Switching beeper on/off. Each keystroke can be confirmed by a short beep.
--------	--

Terminal → Access – Access to the supervisor level

Supervisor	Enter password for Supervisor menu access.
Enter code	Request to enter password. → Enter password and confirm with ↗.
Retype code	Request to repeat the password entry. → Enter password again and confirm with ↗.
Notes	- The password can consist of up to 4 characters (keys). ↗ must not be part of the password. It is required for confirming the password and may only be used in combination with another key. - If you enter a wrong password or make a typing error when retyping, Code error appears on the display.

Terminal → Reset – Reset terminal settings to factory settings

Perform reset?	Confirmation inquiry. - Reset the terminal settings to factory settings with YES. - Do not reset terminal settings with NO.
----------------	---

4.5 Communication menu

Factory settings are printed in **bold** in the following overviews.

Communication menu

COM 1 Parameter settings for the standard RS232 interface COM 1.

Templates Define templates to be selected via COM 1 -> Printer -> Template.

Print language Language used for printout.

4.5.1 RS232 menu (COM 1)

Level 1	Level 2	Level 3	Level 4
Mode	Print, Auto print, Instant print, Continuous, Dialogue , External input, ToledoContinuous-Weight, ToledoContinuous-Count, TC Command		
Print	Type	ASCII print , Label printer, GA46 printer, PQ16 printer, Template printer	
	Print template	Standard , Template 1 ... Template 5	
	Plus template	Off , Template 1 ... Template 5	
	Total template	Off , Template 1 ... Template 5	
	ASCII format	Line format	Multiple , Single, Fixed
		Line length	1 ... 24 ... 100
		Separator	. , : ; – _ / \ Space
		Add line feed	0 ... 9
Destination	Off , Tare preset, ID1, ID2, Average piece weight, Record number, Article name, Article number		
Parameter	Baud	300, 600, ..., 9600 ,..., 57600, 115200	
	Parity	7 none, 8 none , 7 odd, 8 odd, 7 even, 8 even	
	Checksum	On, Off	
	STX	On, Off	
Reset RS232	Perform reset?		

4.5.2 RS232 Menu (COM 1) description

Terminal → Device – General device settings

Print	Manual data output to the printer with  .
Auto print	Automatic output of stable results to the printer (e.g., for series weighing operations).
Instant print	Immediate manual data output to the printer with  (not verifiable).
Continuous	Ongoing output of all SICS format weight values via the interface.
Dialog	Bi-directional communication via MT-SICS commands, control of the device via PC.
External input	Input other than via terminals (e.g., barcode scanner). The use of input data is defined in the Destination menu block.
ToledoContinuous-Weight	TOLEDO continuous mode with weighting results.
ToledoContinuous-Count	TOLEDO continuous mode with counting results.

Communication → COM 1 → Printer – Settings for protocol printout

Type	Select printer type. Possible settings: ASCII print, Label printer, GA46 printer, PQ16 printer, Template printer. Notes: • If Label printer is selected, the transmitted data does not include the name of the variable, e.g. Date, Gross, ID1, but the value and, if appropriate, the unit as a separate line. This allows the label printer to fill its template with the required data. • If Template printer is selected, the terminal will automatically scan the SD card to get print templates configured by the user. The template name is automatically displayed in the template list. No option in the template list means no template files are found. In this case, check whether template files are available on the SD card.
Template	Selecting protocol printout. Possible settings: Standard, Template 1 ... Template 5.
ASCII Format Line format	Select formats for the protocol printout. Select line format. Possible settings: • Multiple (multiple lines) • Single (single line) • Fixed (records output in single lines; every record includes the number of characters that was defined under Line length)
Line length	Set line length. Possible settings: 0 to 100 characters. Factory setting: 24 characters. This item is only displayed if Multiple or Fixed line format is selected.
Separator	Select the separator. Possible settings: , ; : / \ _ – and space. This item is only displayed if Single line format is selected.
Expanded	Printout with bigger font size on METTLER TOLEDO printers.
Add line feed	Add line feeds. Possible settings: 0 ... 9

Communication → COM 1 → Destination – Destination for barcode entry

None	Input destination is not predefined. The input will be shown on the display, you can decide what to do with the input.
Tare preset	Input via barcode is assigned as tare preset.
ID1, ID2	Input via barcode is assigned as ID1 or ID2.
Average PW	Input via barcode is assigned as average piece weight.
Dialog	Bi-directional communication via MT-SICS commands, control of the device via PC.
Record number	Input via barcode is assigned as record number.
Article name	Input via barcode is assigned as article name. Then search the corresponding data in material database
Article number	Input via barcode is assigned as article number. Then search the corresponding data in material database.

Communication → COM 1 → Parameter – Communication parameters

Baud	Select baud rate. Possible settings: 300, 600, 1200, 2400, 4800, 9600 , 19200, 38400, 57600, 115200.
Parity	Select parity. Possible settings: 7 none, 8 none , 7 odd, 8 odd, 7 even, 8 even.
Checksum	Activate/deactivate checksum byte.
STX	Activate/deactivate STX. If STX is enabled, the STX signal (0x02) is sent at the beginning of each output string that is sent via the interface.

Communication → COM 1 → Reset COM x –

Reset communication settings to factory settings.

Perform reset?	Confirmation inquiry. - Reset the communication settings to factory settings with YES. - Do not reset communication settings with NO.
----------------	---

4.5.3 Templates menu

Level 1	Level 2	Level 3
Template 1 ... Template 5	Line 1 ... Line 25	Not used, Header, Date, Time, Gross, Net, Tare, High resolution, ID1, ID2, Device identifier, Device location, Target, Tolerance-, Tolerance+, Tolerance type, Article name, Article number, Deviation, Weight position, Average piece weight, Reference count, Quantity, Record number, Total net, Total piece, n, SNR (serial number) scale, Star line, New line, Form feed.

Configure templates

1. Select a template.
2. Select the line to be configured.
3. Assign the line contents.



The header must be specified via SICS command. It is not valid for Template printer in template setting.

You can download templates from the METTLER TOLEDO website or have METTLER TOLEDO technicians customize the templates you need.

4.6 Maintenance menu

Test scale Start?	Test the scale. Scales with an analog scale interface offer the following test procedure: 1. Press  to start the scale test. The scale checks the zero point and -0- appears on the display. The test weight value flashes in the display. 2. If necessary, adjust the test weight value displayed using  →T←. 3. Put the test weight on the scale and confirm with . The scale checks the test weight. After the test is complete, the deviation from the last calibration briefly appears on the display, ideally *d=0.0 g. The device switches to the next menu item.
Keyboard test Start?	Keyboard test. 1. Press  to start the keyboard test. 2. Press the keys in the order displayed on the screen. 3. If the key works, the device switches to the next key.
Display test Start?	Display test. 1. Press  to start the display test. A checkerboard pattern is displayed. 2. Press  to leave the display test. The display works properly if the dark and bright fields are displayed without missing pixels.
Serial number	Display of the serial number of the counting scale.
Print setup	Printout of a list of all menu settings.
Reset all Perform reset	Reset all settings to factory settings. Confirmation inquiry. • Reset all settings to factory settings with YES. • Do not reset settings with NO.

5 Error messages

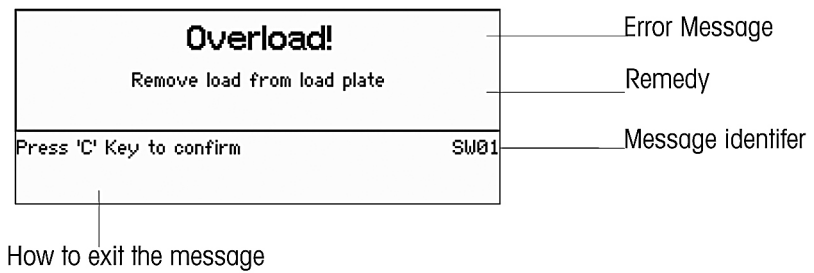
5.1 Error conditions

Error	Cause	Remedy
Display dark	• Backlighting set too dark	→ Set backlighting brighter
	• No mains voltage	→ Check mains
	• Power supply not plugged in	→ Plug in power supply
	• Brief fault	→ Switch device off and on again
Weight display unstable	• Location with vibrations (restless installation location)	→ Avoid vibration or adjust vibration filter
	• Drift	→ Avoid drift
	• Contact between load plate and/or weighing sample and surroundings	→ Avoid contact between load plate and/or weighing sample and surroundings
Incorrect weight display	• Incorrect zeroing	→ Unload scale, set to zero and repeat weighing operation
	• Incorrect tare value	→ Clear tare
	• Contact between load plate and/or weighing sample and surroundings	→ Avoid contact between load plate and/or weighing sample and surroundings
	• Scale tilted	→ Level scale
[_ _ _ _]	• Load plate not on the scale	→ Place load plate on the scale
	• Weighing range not reached (less than 9d)	→ Set to zero
[- - - -]	• Weighing range exceeded (more than 9d)	→ Unload scale → Reduce preload
- - - - -	• Result not yet stable	→ If necessary, adjust vibration filter

5.2 Errors and warnings

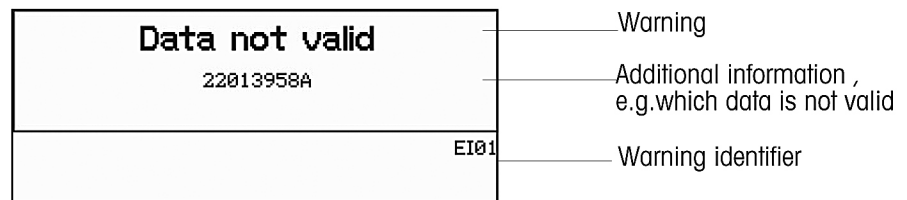
5.2.1 Error messages

Error messages contain the following information:



5.2.2 Warnings

Warnings are displayed briefly and then disappear automatically.



6 Technical data

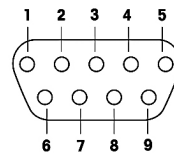
6.1 Weighing terminal

Housing	ASB plastic
Scale	AISI304 stainless steel
Display	- LCD (liquid crystal graphical display), with backlighting - Size: 125 x 50 mm / 240 x 96 pixels
Keyboard	- Tactile-touch membrane keypad - Scratch-resistant labeling
Weight	3.3 kg net
Mains adapter	- Rated voltage: 100 to 240 V, +10/–15%, 50/60 Hz - Output voltage: DC 12 V, 0.8 A
Battery power supply	6 D-size consumer grade, non-chargeable carbon-zinc or alkaline D-size batteries
Environmental conditions	- Application indoor use only - Altitude up to 2000 m - Temperature range –10 °C to +40 °C - Humidity 15 to 85 % relative
Interfaces	1 standard RS232 integrated

6.2 Interface definition

RS232 pin connector, COM1 (standard)

Pin 1	NC
Pin 2	RXD
Pin 3	TXD
Pin 4	NC
Pin 5	GND
Pin 6	NC
Pin 7	NC
Pin 8	NC
Pin 9	VCC +5.0 V / 150 mA



NC = not connected

7 Appendix

7.1 Disposal



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

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

7.2 Geo values

For weighing instruments verified at the manufacturer, the Geo code value indicates the country or geographical zone for which the instrument is verified. The Geo code value set in the instrument (e.g. "Geo 18") appears briefly after switching the scale on.

Northern or southern latitude in degrees and minutes	Height above sea level in meters										
	0	325	650	975	1300	1625	1950	2275	2600	2925	3250
	325	650	975	1300	1625	1950	2275	2600	2925	3250	3575
	Height above sea level in feet										
	0	1060	2130	3200	4260	5330	6400	7460	8530	9600	10660
	1060	2130	3200	4260	5330	6400	7460	8530	9600	10660	11730
0° 0' – 5° 46'	5	4	4	3	3	2	2	1	1	0	0
5° 46' – 9° 52'	5	5	4	4	3	3	2	2	1	1	0
9° 52' – 12° 44'	6	5	5	4	4	3	3	2	2	1	1
12° 44' – 15° 6'	6	6	5	5	4	4	3	3	2	2	1
15° 6' – 17° 10'	7	6	6	5	5	4	4	3	3	2	2
17° 10' – 19° 2'	7	7	6	6	5	5	4	4	3	3	2
19° 2' – 20° 45'	8	7	7	6	6	5	5	4	4	3	3
20° 45' – 22° 22'	8	8	7	7	6	6	5	5	4	4	3
22° 22' – 23° 54'	9	8	8	7	7	6	6	5	5	4	4
23° 54' – 25° 21'	9	9	8	8	7	7	6	6	5	5	4
25° 21' – 26° 45'	10	9	9	8	8	7	7	6	6	5	5
26° 45' – 28° 6'	10	10	9	9	8	8	7	7	6	6	5
28° 6' – 29° 25'	11	10	10	9	9	8	8	7	7	6	6
29° 25' – 30° 41'	11	11	10	10	9	9	8	8	7	7	6
30° 41' – 31° 56'	12	11	11	10	10	9	9	8	8	7	7
31° 56' – 33° 9'	12	12	11	11	10	10	9	9	8	8	7
33° 9' – 34° 21'	13	12	12	11	11	10	10	9	9	8	8
34° 21' – 35° 31'	13	13	12	12	11	11	10	10	9	9	8
35° 31' – 36° 41'	14	13	13	12	12	11	11	10	10	9	9
36° 41' – 37° 50'	14	14	13	13	12	12	11	11	10	10	9
37° 50' – 38° 58'	15	14	14	13	13	12	12	11	11	10	10
38° 58' – 40° 5'	15	15	14	14	13	13	12	12	11	11	10
40° 5' – 41° 12'	16	15	15	14	14	13	13	12	12	11	11
41° 12' – 42° 19'	16	16	15	15	14	14	13	13	12	12	11
42° 19' – 43° 26'	17	16	16	15	15	14	14	13	13	12	12
43° 26' – 44° 32'	17	17	16	16	15	15	14	14	13	13	12
44° 32' – 45° 38'	18	17	17	16	16	15	15	14	14	13	13
45° 38' – 46° 45'	18	18	17	17	16	16	15	15	14	14	13
46° 45' – 47° 51'	19	18	18	17	17	16	16	15	15	14	14
47° 51' – 48° 58'	19	19	18	18	17	17	16	16	15	15	14
48° 58' – 50° 6'	20	19	19	18	18	17	17	16	16	15	15
50° 6' – 51° 13'	20	20	19	19	18	18	17	17	16	16	15
51° 13' – 52° 22'	21	20	20	19	19	18	18	17	17	16	16
52° 22' – 53° 31'	21	21	20	20	19	19	18	18	17	17	16
53° 31' – 54° 41'	22	21	21	20	20	19	19	18	18	17	17
54° 41' – 55° 52'	22	22	21	21	20	20	19	19	18	18	17
55° 52' – 57° 4'	23	22	22	21	21	20	20	19	19	18	18
57° 4' – 58° 17'	23	23	22	22	21	21	20	20	19	19	18
58° 17' – 59° 32'	24	23	23	22	22	21	21	20	20	19	19
59° 32' – 60° 49'	24	24	23	23	22	22	21	21	20	20	19
60° 49' – 62° 9'	25	24	24	23	23	22	22	21	21	20	20
62° 9' – 63° 30'	25	25	24	24	23	23	22	22	21	21	20
63° 30' – 64° 55'	26	25	25	24	24	23	23	22	22	21	21
64° 55' – 66° 24'	26	26	25	25	24	24	23	23	22	22	21
66° 24' – 67° 57'	27	26	26	25	25	24	24	23	23	22	22
67° 57' – 69° 35'	27	27	26	26	25	25	24	24	23	23	22
69° 35' – 71° 21'	28	27	27	26	26	25	25	24	24	23	23
71° 21' – 73° 16'	28	28	27	27	26	26	25	25	24	24	23
73° 16' – 75° 24'	29	28	28	27	27	26	26	25	25	24	24
75° 24' – 77° 52'	29	29	28	28	27	27	26	26	25	25	24
77° 52' – 80° 56'	30	29	29	28	28	27	27	26	26	25	25
80° 56' – 85° 45'	30	30	29	29	28	28	27	27	26	26	25
85° 45' – 90° 00'	31	30	30	29	29	28	28	27	27	26	26