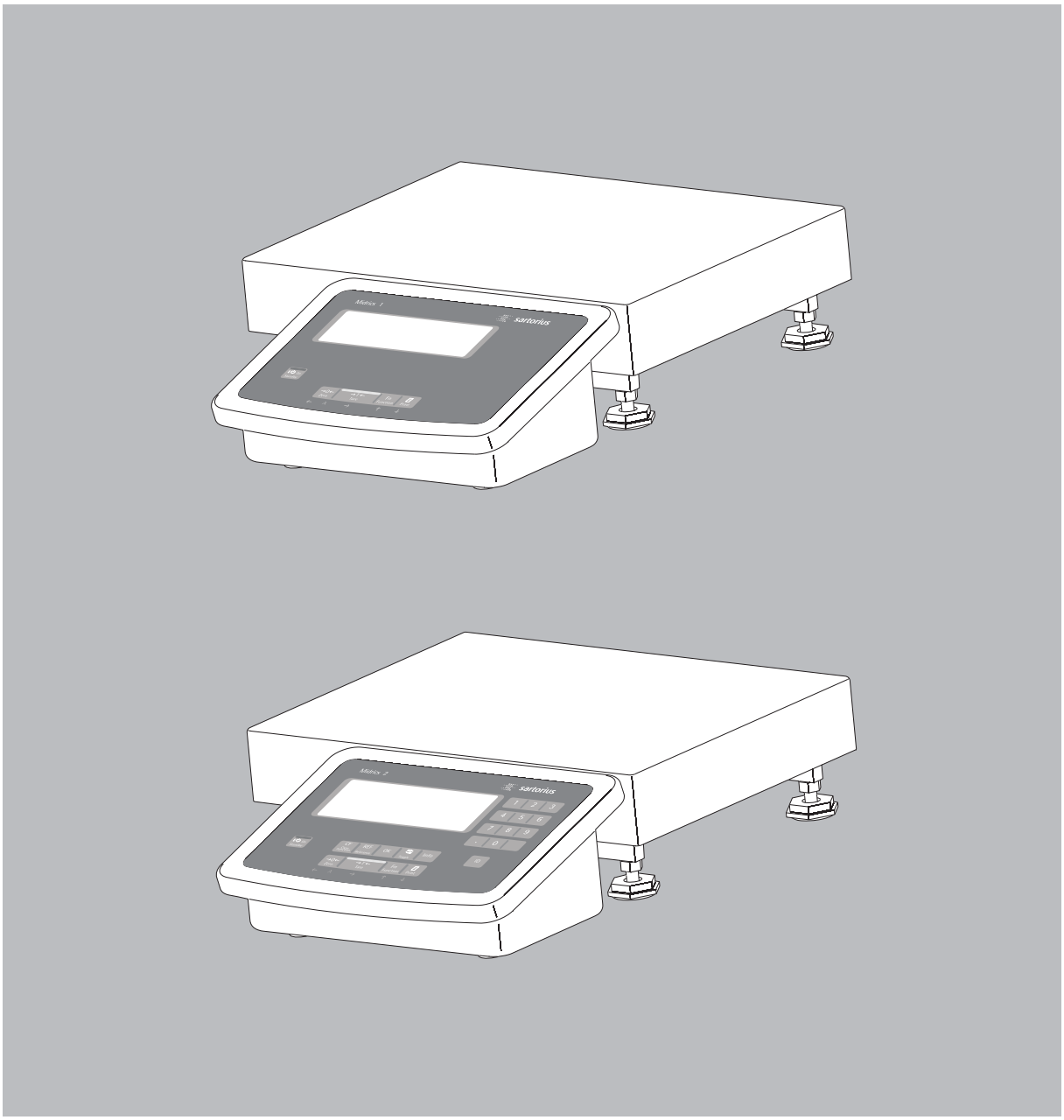
sartorius
mechatronics

Operating Instructions

Sartorius Midrics® 1 | Midrics® 2

Models MW1 | MW2
Complete Scales



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Intended Use

Midrics® 1 and 2 are rugged complete scales for the demanding area of daily quality control. They meet the highest requirements placed on the accuracy and reliability of weighing results:

- in the food industry
- in the pharmaceutical industry
- in the chemical industry
- in the electronics and metal-working industries

Midrics® complete scales are:

- Rugged and durable (stainless steel housing)
- Easy to clean and disinfect
- Easy to operate, thanks to:
  - large, backlit display segments
  - large keys with positive click action
- Independent of the weighing platform location
- Equipped with a range of interfaces for flexible use
- Password-protected from unauthorized changes in the operating menu

Additional characteristics (Midrics® 2):

- Input functions for tare values through numeric keypad
- Option for 4 alphanumeric lines to identify samples
- Fast response times
- Designation of weight values with up to 4 lines of alphanumeric text
- Built-in application programs for:
  - Counting
  - Neutral measurement
  - Weighing in percent
  - Averaging
  - Checkweighing
  - Classification
  - Net-total formulation
  - Totalizing
- Automatic initialization when the Midrics is switched on
- Automatic taring when the first load is placed on the weighing platform
- Optional remote control using an external computer

Symbols
The following symbols are used in these instructions:

- ● denotes general operating instructions
- ○ indicates instructions for exceptional cases
- > describes the outcome of an operating step
- ⚠ indicates a hazard

Contents

Warnings and Safety Precautions

Safety Information

● To prevent damage to the equipment, please read these operating instructions carefully before using your scale.

⚠ Do not use this equipment in hazardous areas. If you use electrical equipment in installations and under ambient conditions subject to stricter safety standards than those described in this manual, make sure you comply with the provisions specified in the applicable regulations for installation in your country.

⚠ Disconnect the equipment from the power supply before connecting or disconnecting peripheral devices.

⚠ The display and control unit may be opened only by trained service technicians.

⚠ If there is visible damage to the equipment or power cord, turn off the power and disconnect the equipment from AC power immediately. Lock the equipment in a secure place to ensure that it cannot be used for the time being.

⚠ If the equipment is exposed to excessive electromagnetic interference, it can affect the value displayed. Once the disturbance has ceased, the instrument can be used again in accordance with its intended purpose.

Installation

⚠ Always wear gloves, safety boots and protective clothing when lifting the load plate with suction lifting equipment.
Warning: Danger of personal injury! This work must be carried out by authorized and properly trained personnel.

– Weighing platforms with dimensions of 1 × 1 m or larger are provided with suspension supports. Do not stand beneath the weighing platform/load plate when it is being transported or lifted with a crane. Always comply with the applicable safety regulations. Make sure to avoid damaging the junction box or the load cells during transport.

– The operator shall be solely responsible for installation and testing of any modifications to Sartorius equipment, including connection of cables or equipment not supplied by Sartorius.

– Contact Sartorius for detailed operating specifications in accordance with the applicable standards for immunity to interference.
If Option L8 (24-volt module) for connection to low-voltage sources is used, be sure to comply with the requirements for safety extra low voltage (SELV) and protective extra low voltage (PELV).

– Do not expose the equipment to aggressive chemical vapors or to extreme temperatures, moisture, shocks, or vibration.

– Clean your Midrics scale only in accordance with the cleaning instructions (see “Care and Maintenance”).

IP Rating

Industrial protection ratings for the housing:
– Models MW1P/MW2P are rated to IP65
– Models MW1S/MW2S:
  – Display and control unit: IP65
  – Weighing platform: IP67

– The IP65 protection rating for the display and control unit is ensured only if the rubber gasket is installed and all connections are fastened securely (including the caps on unused sockets). Weighing platforms must be installed and tested by a certified technician.

– If you install an interface port after setting up your display and control unit, keep the protective cap in a safe place for future use. The cap protects the interface connector from vapors, moisture and dust or dirt.

Use in Legal Metrology

– If the scale is to be verified, make sure to observe the applicable regulations regarding verification.

– If any of the verification seals are damaged, make sure to observe the national regulations and standards applicable in your country in such cases.
In some countries, the equipment must be re-verified.

Getting Started

The complete scale is available in various versions. If you have ordered special options, the display and control unit is equipped with the required features at the factory.

Storage and Shipping Conditions

– Allowable storage temperature: 10°C to +40°C (+14°F to 104°F)
– Once the equipment has been removed from the packaging, it may lose accuracy if subjected to strong vibration. Excessively strong vibration may compromise the safety of the equipment.
– Do not expose the equipment unnecessarily to aggressive chemical vapors or to extreme temperatures, moisture, shocks, or vibration.

Unpacking the Equipment

● After unpacking the equipment, please check it immediately for any external damage.
○ If you detect any damage, proceed as directed in the chapter entitled “Care and Maintenance,” under “Safety Inspection.”
○ Save the box and all parts of the packaging for any future transport. Unplug all connected cables before packing the equipment.

Equipment Supplied

– Complete scale
– Operating instructions (this manual)
– Special accessories as listed on the bill of delivery, if ordered

Installation

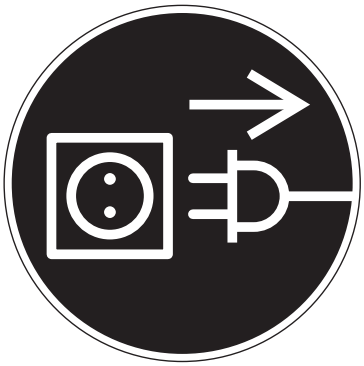
Choose a location that is not subject to the following negative influences:
– Heat (heater or direct sunlight)
– Drafts from open windows or doors
– Excessive vibration during weighing
– Excessive moisture

Conditioning the Scale

Moisture in the air can condense on cold surfaces whenever the equipment is moved to a substantially warmer place. To avoid the effects of condensation, condition the scale for about 2 hours at room temperature, leaving it unplugged from AC power.

Equipment Not in Use

Switch off the equipment when not in use.



Connecting the Scale to AC Power

● Check the voltage rating and the plug design.

○ The scale is powered through the pre-installed power cord. The power supply is built into display and control unit, which can be operated with a supply voltage of 100V to 240V. Make sure that the voltage rating printed on the manufacturer's ID label is identical to that of your local line voltage. If the voltage specified on the label or the plug design of the AC adapter do not match the rating or standard you use, please contact your Sartorius office or dealer.
The power connection must be made in accordance with the regulations applicable in your country.

● To power a device of protection class 1, plug the power cord into an electrical outlet (mains supply) that is properly installed with a protective grounding conductor (protective earth = PE). The power plug or a different, suitable disconnecting device for the power must be easily accessible.

⚠ NOTE: This equipment has been tested and found to comply with the limits pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. For information on the specific limits and class of this equipment, please refer to the Declaration of Conformity. Depending on the particular class, you are either required or requested to correct the interference. If you have a Class A digital device, you need to comply with the FCC statement as follows: "Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."

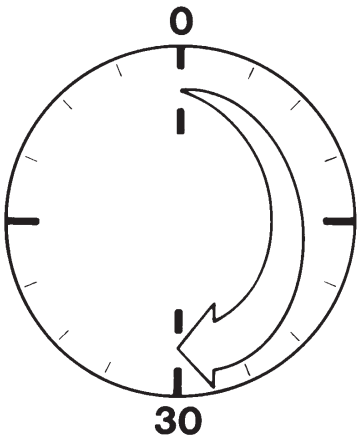
If you have a Class B digital device, please read and follow the FCC information given below:
"[...]However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help."

Before you operate this equipment, check which FCC class (Class A or Class B) it has according to the Declaration of Conformity included. Be sure to observe the information of this Declaration.

Safety Precautions

If you use an electrical outlet that does not have a protective grounding conductor, make sure to have an equivalent protective conductor installed by a certified electrician as specified in the applicable regulations for installation in your country. Make sure the protective grounding effect is not neutralized by use of an extension cord that lacks a protective grounding conductor.

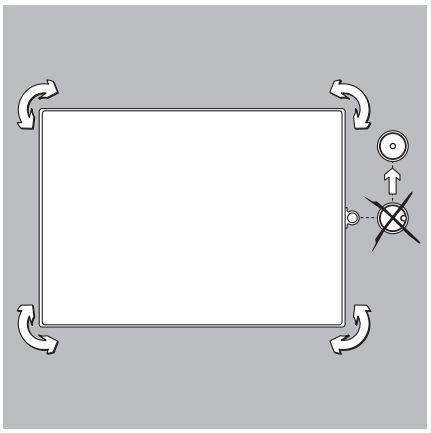


Warmup Time

To deliver exact results, the scale must warm up for at least 30 minutes after initial connection to AC power or after a relatively long power outage. Only after this time will the scale have reached the required operating temperature.

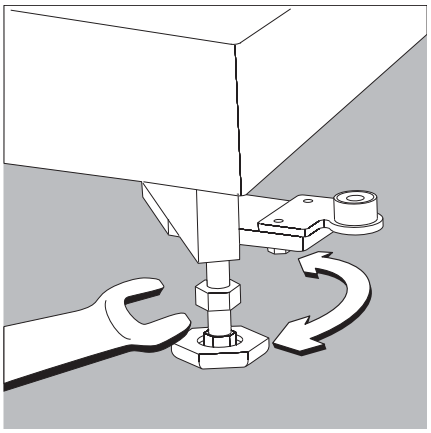
Using Equipment Verified as a Legal Measuring Instrument in the EU:

○ Allow the equipment to warm up for at least 6 hours after initial connection to AC power.



Leveling the Weighing Platform (Verified Models Only)
Purpose:
- To compensate for uneven areas at the place of installation
- To ensure that the equipment is placed in a perfectly horizontal position for consistently reproducible weighing results
  Always level the weighing platform again any time after it has been moved to a different location.

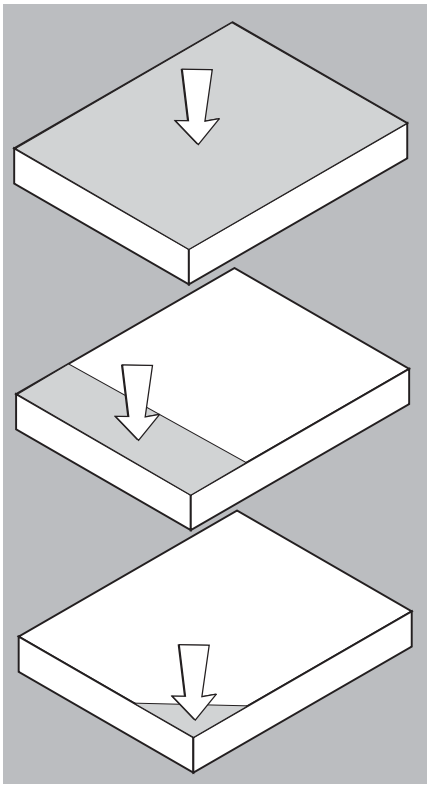
● Level the weighing platform using the four leveling feet.
  Turn the feet until the air bubble is centered in the level indicator.



● Check to ensure that all leveling feet rest securely on the work surface.
> Each of the leveling feet must support an equal load.

● Loosen the locknuts on the leveling feet using an open-end wrench (spanner).
> Adjusting the leveling feet:
  To raise the weighing platform, extend the leveling feet (turn counterclockwise).
  To lower the weighing platform, retract the leveling feet (turn clockwise).

● After leveling the weighing platform, tighten the lock nuts as follows:
  Small platforms (1 load cell): tighten the locknuts against the platform frame
  Large platforms (4 load cells): tighten the locknuts against the platform foot



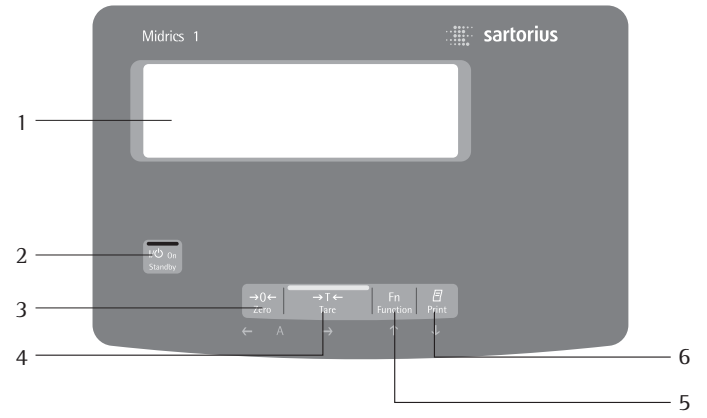
Operating Limits
Never exceed the maximum capacity of the weighing platform.
The maximum loading capacities of the weighing platforms in this series are listed in the table below, and depend on the position of the load on the platform:

Model	Width (mm)	Length (mm)	Center*	Side	Corner
DC	240	320	50	35	20
ED	300	400	130	85	45
FE	400	500	300	200	100
GF	500	650	600	400	200
IG	600	800	450	300	150
II	800	800	1200	800	400
LI	800	1000	900	600	300
LL	1000	1000	4500	3000	1500
NL	1000	1250	4500	3000	1500
NN	1250	1250	4500	3000	1500
RN	1250	1500	4500	3000	1500
RR	1500	1500	4500	3000	1500
WR	1500	2000	4500	3000	1500

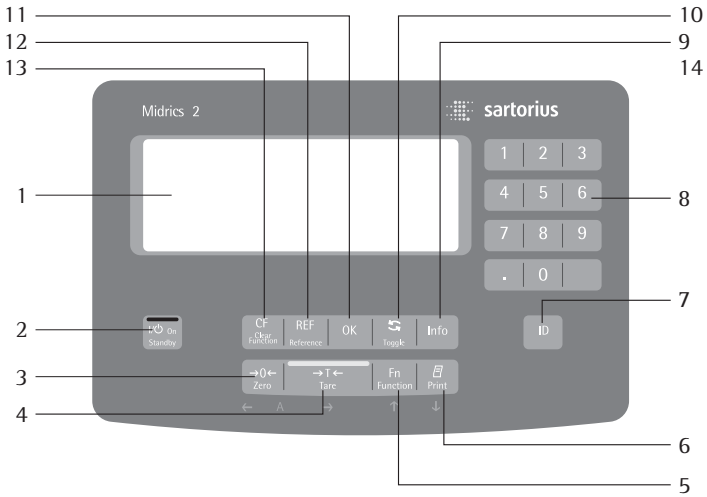
* overload capacity of the platform

General View of the Equipment

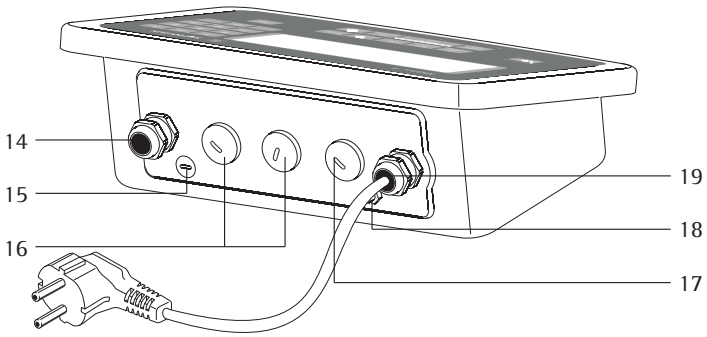
Midrics 1



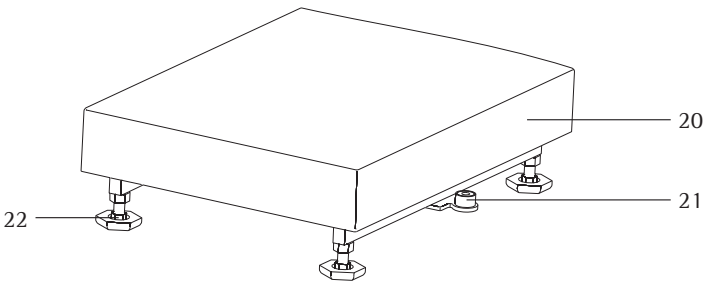
Midrics 2



Midrics display and control unit



Midrics weighing platform



Display and Keypad

1 Display
(for details, see the chapter entitled "Operating Design")

2 On/standby key

3 Zero key

4 Tare key

5 Function key (e.g., toggle between gross and net values)

6 Print key (data output)

7 ID key
(for entering product information)

8 Numeric keypad

9 Info key (for viewing ID codes and manual tare values)

10 Toggle key
(function depends on application)

11 OK key
(function depends on application)

12 Reference value key
(function depends on application)

13 Clear-function key
(function depends on application)

Back Panel of Display and Control Unit

14 Connector for weighing platform

15 Menu access switch

16 Optional:
Second interface (UniCOM)

17 Optional:
RS-232C interface (COM1)

18 Ground terminal
(equipotential bonding)

19 Power cord

Weighing Platform

20 Load plate

21 Level indicator (verified models only)

22 Leveling feet

Operating Design

Keys
Operation of the Midrics® 1 or Midrics® 2 scale involves just a few keys. These keys have one function during measurement and another during configuration. Some of the keys have one function when pressed briefly and another activated by pressing and holding the key for longer than 2 seconds.

If a key is inactive, this is indicated as follows when it is pressed:
– The error code "----" is displayed for 2 seconds. The display then returns to the previous screen content.

Configure the operating menu for the desired application program first (printer settings, etc.). Then you can begin weighing.

Operating elements: Midrics® 2

Input

Keypad Input

Labeled Keys
Some keys have a second function, activated by pressing and holding the key for at least 2 seconds. Whether a function is available depends on the operating state and menu settings.

[I/⏻] On/standby
(in standby mode, OFF is displayed).

[→0←]
– Zero the scale
– Cancel calibration/adjustment

[→T←]
– Tare the scale

[Fn] Toggle between 1st and 2nd weight unit, or gross and net values, or normal and 10-fold higher resolution, depending on operating menu settings

[🖹]
– To print: press briefly (< two seconds).

Midrics 2 only:
[ID] ID key for entering product information

Midrics 2 only:
[Info] View application data or manual tare values, depending on the key pressed subsequently (e.g., [→T←])

Midrics 2 only:
[⇆] Toggle between display modes within an application program

Midrics 2 only:
[OK] Save a value or start an application program.

Midrics 2 only:
[REF] Modify a reference value

Midrics 2 only:
[CF]
– Quit an application or delete an input character

Midrics 2 only:
[0], [1], [2] ... [9]
Enter numbers, letters and other characters

Numeric Input Through the Keypad (Midrics 2 only)

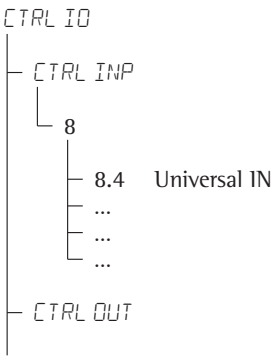
- To enter numbers (one digit at a time): Press [0], [1], [2] ...[9]
- To save input: press the required key (e.g., [→T←] to save manual tare input)
- To delete a digit: Press [CF]

Loading a Tare Value from the Weighing Platform

You can store the weight on the weighing platform; for example, as a tare weight, by pressing the [→T←] key

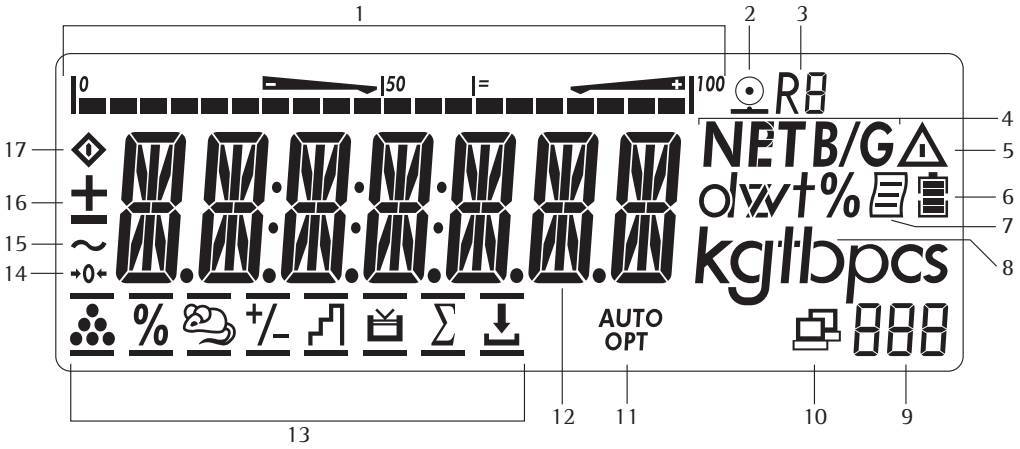
Input Through the Digital Input Port

You can connect a remote hand switch or foot switch to the input control line, for use with all application programs. Assign one of the following functions to this switch in the operating menu, under "CONTROL IO/ -> Control input":



For a detailed list of menu items, please see the chapter entitled "Configuration."

Operating Design



Display in Weighing Mode
The illustration above shows all display segments and the symbols and other elements used during normal weighing operation.

1. Bar graph
   – Shows the percentage of the weighing platform's capacity that is "used up" by the load on the scale (gross value), or
   – Shows the measured value in relation to a target value (with the Checkweighing or Classification application)

2. Printing in progress

3. Display of the range on multiple-range instruments

4. Indicates a net or gross value in the main display (when data is stored in tare memory)

5. Identifies the value on the main display as calculated (value not valid in legal metrology)

6. Battery symbol showing status of rechargeable battery (empty outline indicates battery is drained)

7. GMP-compliant printing in progress (optional; with interface and "clock" options)

8. Weight unit of the value displayed

9. Numeric display; e.g., showing reference value (Midrics 2 only)

   Midrics 2:
10. Symbol indicating data transfer:
   – Interface initialized
   – Flashes during data transfer

11. Symbols for reference updating (Midrics 2 only)
   – Auto: Depending on the weight value, a reaction is triggered in the application
   – Opt: Automatic reference updating has been performed (Counting application)

12. Weight value or calculated value (main display)

13. Application symbols for Midrics 2 applications:

Counting

Weighing in Percent

Averaging (Animal Weighing)

Checkweighing

Classification

Totalizing

Net-total Formulation

Checkweighing:
Batching to a target value

   Verified models only:
14. The "zero-setting" symbol is displayed after the active scale or weighing platform has been zeroed

15. Stability symbol

16. Plus or minus sign for the value displayed

17. Busy symbol; indicates that an internal process is in progress

There are two display modes:
– Normal operation (weighing mode)
– Operating menu (for configuration)

Weighing Mode: Display of Measured and Calculated Values (Main Display)

Application, printing and battery symbols:
The application symbol indicates the selected program; for example:
- Counting application symbol
- Printing mode active
- GMP printing mode active

The battery symbol indicates the charge level of the external rechargeable battery.

Bar graph
The bar graph shows the percentage of the weighing platform's capacity that is "used up" by the load on the scale (gross value).

0% Lower limit
100% Upper limit

The following symbols indicate tolerance levels for Checkweighing:

 Bar graph with 10% markings

 Minimum in Checkweighing

|= Target in Checkweighing

 Maximum

Plus/minus sign:
+ or **−** for weight value or calculated value, **o** when the weighing platform is zeroed or tared.

Measured value/result line
This field shows weight values and calculated values (alphanumeric characters)

Unit and stability
When the weighing system reaches stability, the weight unit or the unit for a calculated value is displayed here.

Tare in memory, calculated values:
The following symbols may be displayed here:

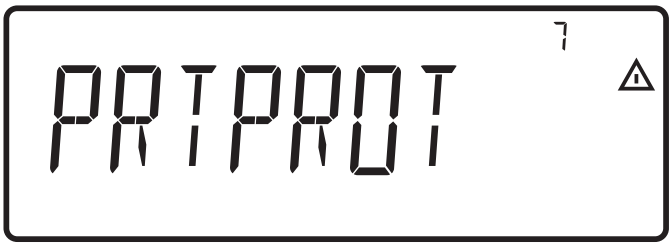
⚠ Calculated value (not valid in legal-for-trade applications)

NET Net value (gross weight minus tare)

B/G Gross value (net value plus tare)

Data in tare memory, calculated values, designation of the active weighing platform
PT Identification of manual tare input when viewing tare information

Saving Data in Weighing Mode
All of the application parameters saved (e.g., reference values) remain in memory and are still available after
- the Midrics has been switched off and back on again, or
- you return to the originally selected application from a second one (e.g., when you switch from Averaging back to Counting, all parameters saved for Counting are available)



Display of menu settings: Text menu (example)

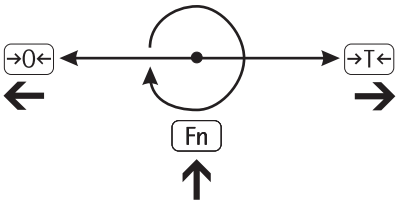
Display of menu settings: Numeric menu (example)

Operating Menu Navigation

The keys below the readout let you navigate the menu and define parameters for configuration.

Opening the Menu
Press the [I/⏻] key to switch the Midrics off and then on again; while all segments are displayed, press the [→T←] key briefly.

Navigating the Menu



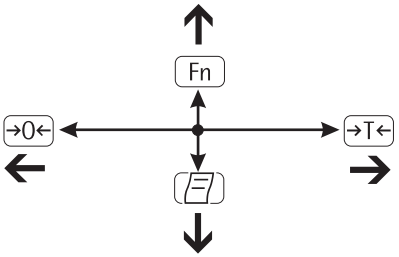
[→0←] Close the active submenu and return to the next higher menu level ("back")

[→T←]
- Press briefly: Select and save a menu item
- Press and hold (> 2 seconds): Exit the menu

[Fn] Show the next item on the same menu level (the display scrolls through all items in series)

[🖃] Print the menu settings starting from the current position, or print Info data

Alphanumeric Input in the Menu



[→0←]
- Press briefly: Activate character to the left of the current character (when first character is active: exit input mode without saving changes)
- Press and hold (> 2 seconds): Exit input mode without saving changes

[→T←]
- Press briefly: Confirm currently active character and move cursor 1 position to the right (after the last character: save input)
- Press and hold (> 2 sec): Save current input and display the menu item

[Fn]
- Cursor in first position, no characters entered yet: Delete character(s) and enter 0
- Change the displayed character; scroll forward (sequence: 0 through 9, decimal point, minus sign, A to Z, space)

[🖃]
- Cursor in first position, no characters entered yet: Delete entire string and enter a space
- Change the displayed character; scroll backwards (sequence: space, Z to A, minus sign, decimal point, 9 through 0)

Numeric input in Midrics 2 operating menu:
Enter values (date and time, etc.) using the 10-key numeric keypad

Display of Menu Settings
The illustrations above show examples of the main display during menu configuration.

1 Selected menu item on the text level (e.g. printer, for configuring the connected printer)
2 Menu history (indicates the highest menu level)
3 Indication that there are other submenus
4 Highest level in numeric menu
5 Second level in numeric menu
6 Third level in numeric menu

Errors

- If a key is inactive, "-------" or "No function" is displayed briefly (2 seconds)

- Temporary errors are displayed for 2 seconds in the measured value/result line (e.g., INF 09); fatal errors are displayed steadily (e.g., ERR 101) until the Midrics is reset (switched off and then on again).

For a detailed description, see "Error Codes" on page 89.

Data Output

Printer
You can connect two strip or label printers to the Midrics 1 or Midrics 2 and have printouts generated at the press of a key or automatically. You can also configure separate summarized printouts, and print a list of the active menu settings. See "Configuring Printouts" on page 82 for details.

Backup

Application parameters (such as reference values) are saved when you change application programs or switch off the Midrics. You can assign a password to prevent unauthorized users from changing settings in the "Device parameters" menu under:

SETUP
└ PASSWORD

See also pages 14 and 31.

Configuration

You can configure the Midrics scale by selecting parameters in the operating menu. The parameters are combined in the following groups (this is the highest menu level):

- Application parameters
- Fn key function
- Device parameters ("SETUP")
- Device-specific information ("INFO")
- Language

When the scale is used in legal metrology, not all parameters can be accessed.

Factory-set parameters are identified by an asterisk ("*") in the list starting on page 16.

You can choose from six language settings for the display of information:

- German
- English (factory setting)
- English with U.S. date/time format
- French
- Italian
- Spanish

Printing parameter settings:

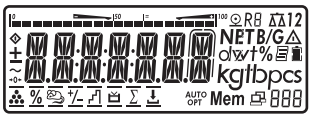
● Open the operating menu and press the (🖶) key

Scope of printout:
Depends on the active menu level
Setting the Language

Setting the Language

Example: Selecting "U.S. Mode" for the language

(I/⏻)



Switch on the scale

(→T←)

While all segments are lit, press the (→T←) key

The first item in the main menu is shown: APPL

(Fn)

Switch to the LANG. menu item (press (Fn) repeatedly until LANG. is shown)

(→T←)

Select LANG. to open the submenu for setting the language

The currently active language setting is shown

(Fn)

Press (Fn) repeatedly until U.S.MODE is displayed

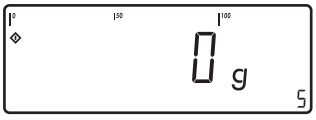
(→T←)

Confirm this menu item

(→0←)

Exit this menu level and configure other settings as desired, or

(→T←) (press and hold)

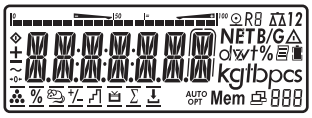


Exit the operating menu

Entering or Changing the Password

Example:
Assign a password (in this example, AB2) to protect the application program settings APPL and the device parameters SETUP from unauthorized changes

I/⏻



1. Switch on the scale

→T←

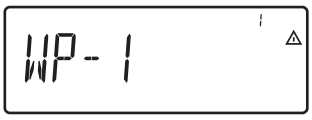
2. While all segments are lit, press the →T← key

   The first item in the main menu is shown: APPL

Fn

3. Select the SETUP menu item (press Fn repeatedly until SETUP is displayed)

→T←



4. Open the SETUP menu

Fn

5. Select the PASSWORD menu item (press Fn repeatedly until PASSWORD is displayed)

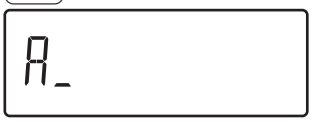
→T←

6. Open the PASSWORD menu

(F), (F)

7. Enter the first character using the p and Fn keys (in this example: A)

→T←



8. Save the character

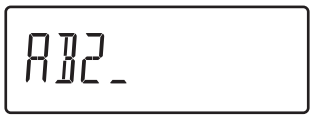
(F), (F), (F)

9. Enter the second character using the (F) and Fn keys (in this example: B)

→T←

10. Save the character

Fn, Fn, Fn,



11. Enter the third character using the (F) and Fn keys (in this example: 2)

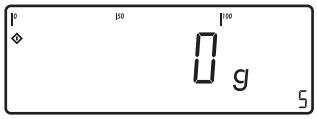
→T←

12. Save the password

→0←

13. Exit this menu level to configure other menu settings, or

→T←



14. Exit the operating menu (press and hold the →T← key)

To modify or delete a password:
Overwrite the old password with the new password, or enter a space as the password and press →T← to confirm

Operating Menu Overview

You can configure the Midrics to meet individual requirements by entering user data and setting selected parameters in the operating menu.

Menu levels are identified by texts, and numeric codes identify the individual settings.

= Setting/function available on Midrics 2 only

1st level display	2nd level display	Function
Menu		
APPL		Select and configure application programs
	Δ Δ	Basic weighing function
	⁂	Counting
	⁂ nN_	Neutral Measurement
		Averaging (animal weighing)
	+/−	Checkweighing
		Classification
	%	Weighing in percent
		Net-total formulation
	Σ	Totalizing
FN-KEY		Define the function of the Fn key
	OFF	No function
	GRO NET	Gross/net toggling
	2.UNIT	Toggle between weight units
	RES 10	10-fold increased resolution
SETUP		Adapt Midrics to user requirements
	WP 1	Settings for weighing instrument on WP1
	COM 1	Settings for the RS-232 interface
	UNICOM	Settings for the optional second interface
	CTRL IO	Assign a function to the control inputs/outputs
	BARCODE	Set the bar code scanner function
	PRTPROT	Configure the printout
	UTILIT	Operating parameters
	TIME	Set the time
	DATE	Set the date
	PASSWORD	Enter a password to protect menu settings
INFO		View device-specific information (service date, serial number, etc.)
LANG		Select language for calibration, adjustment and GMP printouts
	DEUTSCH	German
	ENGLISH	English
	U.S.MODE	English with U.S. date/time format
	FRANC.	French
	ITAL.	Italian
	ESPANOL	Spanish

Operating Menu

= Setting/function available on Midrics 2 only

* Factory setting

Menu

APPL

Application Programs

Basic weighing function

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 9.1. Factory settings for all application programs
  - 9.1.1 Yes
  - 9.1.2* No

Counting

- 3.5. Minimum load for automatic taring and automatic printing
  - Numeric menu as for Weighing
- 3.6. Minimum load for initialization
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.9. Resolution for calculation of reference value
  - 3.9.1* Display resolution
  - 3.9.2 Display resolution + 1 decimal place
  - 3.9.3 Display resolution + 2 decimal places
  - 3.9.4 Internal resolution
- 3.11. Parameter for saving weight values (“storage parameter”)
  - 3.11.1* At stability
  - 3.11.2 At increased stability
- 3.12. Reference sample updating (“APW update”)
  - 3.12.1 Off
  - 3.12.3* Automatic
- 9.1. Factory settings for all application programs
  - 9.1.1 Yes
  - 9.1.2* No

APPL

Neutral Measurement

- 3.5. — Minimum load for automatic taring and automatic printing
  - Numeric menu as for Weighing
- 3.6. — Minimum load for initialization
  - Numeric menu as for Counting
- 3.7. — Automatic taring: first weight tared
  - 3.7.1* — Off
  - 3.7.2 — On
- 3.8. — Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 — Automatic (on)
  - 3.8.2* — Manual (off)
- 3.9. — Resolution for calculation of reference value
  - 3.9.1* — Display resolution
  - 3.9.2 — Display resolution + 1 decimal place
  - 3.9.3 — Display resolution + 2 decimal places
  - 3.9.4 — Internal resolution
- 3.10. — Decimal places in displayed result
  - 3.10.1* — None
  - 3.10.2 — 1 decimal place
  - 3.10.3 — 2 decimal places
  - 3.10.4 — 3 decimal places
- 3.11. — Parameter for saving weight values
  - 3.11.1* — At stability
  - 3.11.2 — At increased stability
- 9.1. — Factory settings for all application programs
  - 9.1.1 — Yes
  - 9.1.2* — No

Averaging (Animal Weighing)

- 3.5. — Minimum load for automatic taring and automatic printing
  - Numeric menu as for Weighing
- 3.6. — Minimum load for automatic start
  - Numeric menu as for Counting
- 3.7. — Automatic taring: first weight tared
  - 3.7.1* — Off
  - 3.7.2 — On
- 3.8. — Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 — Automatic (on)
  - 3.8.2* — Manual (off)
- 3.18. — Start of averaging routine
  - 3.18.1* — Manual
  - 3.18.2 — Automatic
- 3.19. — Animal activity
  - 3.19.1 — 0.1% of the animal/object
  - 3.19.2* — 0.2% of the animal/object
  - 3.19.3 — 0.5% of the animal/object
  - 3.19.4 — 1% of the animal/object
  - 3.19.5 — 2% of the animal/object
  - 3.19.6 — 5% of the animal/object
  - 3.19.7 — 10% of the animal/object
  - 3.19.8 — 20% of the animal/object
  - 3.19.9 — 50% of the animal/object
  - 3.19.10 — 100 % of the animal/object
- 3.20. — Automatic printout of results
  - 3.20.1* — Off
  - 3.20.2 — On

- APPL
  - **Averaging (Animal Weighing)**
    - 3.21. Static display of result after load removed
      - 3.21.1* Display is static until unload threshold reached
      - 3.21.2 Display is static until CF is pressed
    - 9.1. Factory settings for all application programs
      - 9.1.1 Yes
      - 9.1.2* No
  - **Checkweighing**
    - 3.5. Minimum load for automatic taring and automatic printing
      - Numeric menu as for Weighing
    - 3.6. Minimum load for initialization
      - Numeric menu as for Counting
    - 3.7. Automatic taring: first weight tared
      - 3.7.1* Off
      - 3.7.2 On
    - 3.8. Start application and load most recent application data when the Midrics is switched on
      - 3.8.1 Automatic (on)
      - 3.8.2* Manual (off)
    - 4.2. Checkweighing range
      - 4.2.1* 30 to 170%
      - 4.2.2 10% to infinity
    - 4.3. Activate control line for “Set” as:
      - 4.3.1* “Set” output
      - 4.3.2 Ready to operate (for process control systems)
    - 4.4. Activation of outputs
      - 4.4.1 Off
      - 4.4.2 Always active
      - 4.4.3 Active at stability
      - 4.4.4* Active within checkweighing range
      - 4.4.5 Active at stability within the checkweighing range
    - 4.5. Parameter input
      - 4.5.1* Min, max, target
      - 4.5.2 Only target with percent limits
    - 4.6. Automatic printing
      - 4.6.1* Off
      - 4.6.2 On
      - 4.6.3 Only values within tolerance
      - 4.6.4 Only values outside tolerance
    - 4.7. Checkweighing toward zero
      - 4.7.1* Off
      - 4.7.2 On
      - 4.7.3 On
    - 9.1. Factory settings for all application programs
      - 9.1.1 Yes
      - 9.1.2* No
  - **Classification**
    - 3.5. Minimum load for automatic taring and automatic printing
      - Numeric menu as for Weighing
    - 3.6. Minimum load for initialization
      - Numeric menu as for Counting
    - 3.7. Automatic taring: first weight tared
      - 3.7.1* Off
      - 3.7.2 On

APPL

Classification

- 3.8. — Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 — Automatic (on)
  - 3.8.2* — Manual (off)
- 4.3. — Activate control line for “Set” as:
  - 4.3.1* — “Set” output
  - 4.3.2 — Ready to operate (for process control systems)
- 4.7. — Activation of outputs
  - 4.7.1 — Off
  - 4.7.2 — Always active
  - 4.7.3* — Active at stability
- 4.8. — Number of classes
  - 4.8.1* — 3 classes
  - 4.8.2 — 5 classes
- 4.9. — Parameter input
  - 4.9.1* — Weight values
  - 4.9.2 — Percentage
- 4.10. — Automatic printing
  - 4.10.1* — Off
  - 4.10.2 — On
- 9.1. — Factory settings for all application programs
  - 9.1.1 — Yes
  - 9.1.2* — No

Weighing in Percent

- 3.5. — Minimum load for automatic taring and automatic printing
  - Numeric menu as for Weighing
- 3.6. — Minimum load for initialization
  - Numeric menu as for Counting
- 3.7. — Automatic taring: first weight tared
  - 3.7.1* — Off
  - 3.7.2 — On
- 3.8. — Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 — Automatic (on)
  - 3.8.2* — Manual (off)
- 3.9. — Resolution for calculation of reference value
  - 3.9.1* — Display resolution
  - 3.9.2 — Display resolution + 1 decimal place
  - 3.9.3 — Display resolution + 2 decimal places
  - 3.9.4 — Internal resolution
- 3.10. — Decimal places in displayed result
  - 3.10.1* — None
  - 3.10.2 — 1 decimal place
  - 3.10.3 — 2 decimal places
  - 3.10.4 — 3 decimal places
- 3.11. — Parameter for saving weight values
  - 3.11.1* — At stability
  - 3.11.2 — At increased stability
- 3.15. — Display
  - 3.15.1* — Residue
  - 3.15.2 — Loss
- 9.1. — Factory settings for all application programs
  - 9.1.1 — Yes
  - 9.1.2* — No

- APPL
  - ⬇ **Net-total Formulation (2nd Tare Memory)**
    - 3.5. — Minimum load for automatic taring and automatic printing
      - Numeric menu as for Weighing
    - 3.6. — Minimum load for automatically saving/transferring values
      - Numeric menu as for Counting
    - 3.7. — Automatic taring: first weight tared
      - 3.7.1* — Off
      - 3.7.2 — On
    - 3.17. — Printout when value is saved in totalizing memory
      - 3.17.1 — Automatic printout of results off
      - 3.17.2* — Generate printout with complete standard configuration each time [OK] is pressed
      - 3.17.3 — Generate printout with complete standard configuration only the first time [OK] is pressed
    - 9.1. — Factory settings for all application programs
      - 9.1.1 — Yes
      - 9.1.2* — No
  - Σ **Totalizing**
    - 3.5. — Minimum load for automatic taring and automatic printing
      - Numeric menu as for Weighing
    - 3.6. — Minimum load for automatically saving/transferring values
      - Numeric menu as for Counting
    - 3.7. — Automatic taring: first weight tared
      - 3.7.1* — Off
      - 3.7.2 — On
    - 3.8. — Start application and load most recent application data when the Midrics is switched on
      - 3.8.1 — Automatic (on)
      - 3.8.2* — Manual (off)
    - 3.16. — Values saved automatically
      - 3.16.1* — Off
      - 3.16.2 — On
    - 3.17. — Individual component data printed when value is added to totalizing memory
      - 3.17.1 — Automatic printout of results off
      - 3.17.2* — Individual printout of a totalizing item when [OK] is pressed
      - 3.17.3 — Components of transaction printed when [OK] is pressed
    - 9.1. — Factory settings for all application programs
      - 9.1.1 — Yes
      - 9.1.2* — No
  - OFF — Disabled
- FN-KEY — [Fn] **Key Assignment**
  - OFF* — No [Fn] key function
  - GRONET — Gross/net toggling
  - 2.UNIT — Show 2nd Weight unit
  - RES 10 — 10-fold increased resolution Display: max. 5 seconds

Device Parameters

Password prompt displayed if a password is configured

- SETUP
  - WP-1 [1]

Weighing platform 1
(Display designation of this menu level: 1)

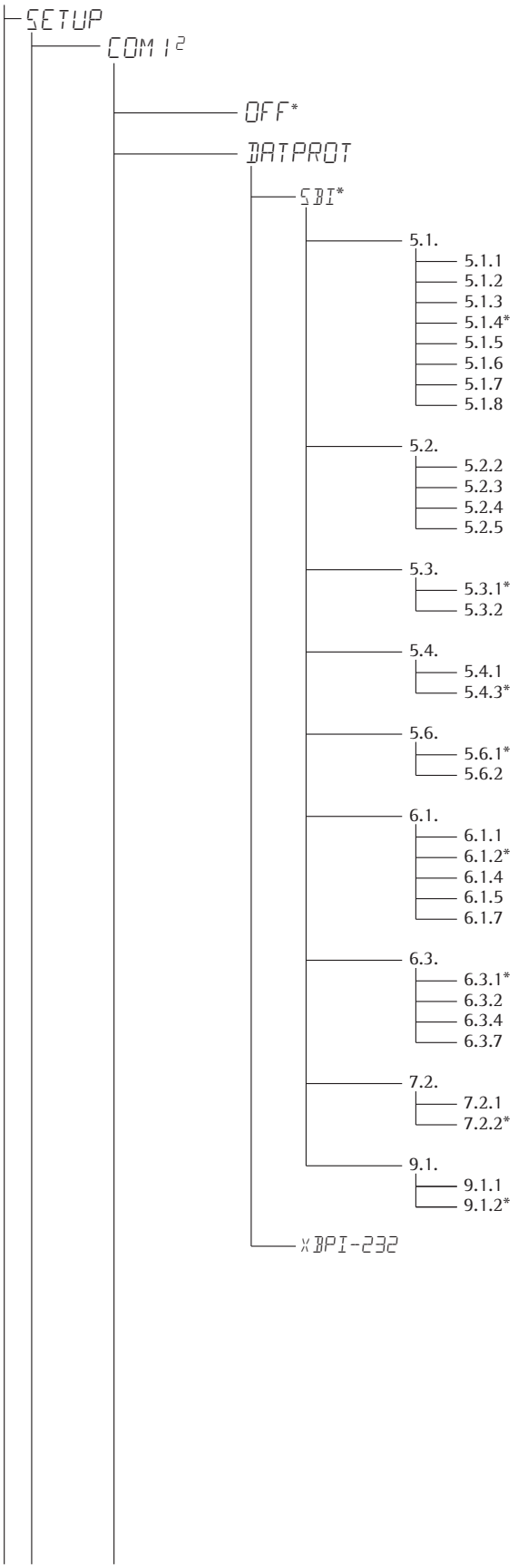
- 1.1. **Adapt weighing instrument to ambient conditions (adapt filter)**
  - 1.1.1 Very stable conditions
  - 1.1.2* Stable conditions
  - 1.1.3 Unstable conditions
  - 1.1.4 Very unstable conditions
- 1.2. **Application filter**
  - 1.2.1* Final readout
  - 1.2.2 Filling mode
  - 1.2.3 Low filtering
  - 1.2.4 Without filtering
- 1.3. **Stability range**
  - 1.3.1 4 digit
  - 1.3.2 1 digit
  - 1.3.3 1 digit[1)]
  - 1.3.4* 2 digits[1)]
  - 1.3.5 4 digits[1)]
  - 1.3.6 8 digits[1)]
- 1.4. **Stability symbol delay**
  - 1.4.1 No delay
  - 1.4.2* Short delay
  - 1.4.3 Average delay
  - 1.4.4 Long delay
- 1.5. **Taring[1)]**
  - 1.5.1 Without stability
  - 1.5.2* After stability
- 1.6. **Auto zero**
  - 1.6.1* On
  - 1.6.2 Off
- 1.7. **Weight Unit 1[2)]**
  - 1.7.1 Grams / o
  - 1.7.2 Grams / g
  - 1.7.3 Kilograms / kg
  - 1.7.4 Carats / ct[1)]
  - 1.7.5 Pounds / lb[1)]
  - 1.7.6 Ounces / oz[1)]
  - 1.7.7 Troy ounces / ozt[1)]
  - 1.7.8 Hong Kong taels / tlh[1)]
  - 1.7.9 Singapore taels / tls[1)]
  - 1.7.10 Taiwanese taels / tlt[1)]
  - 1.7.11 Grains /GN[1)]
  - 1.7.12 Pennyweights / dwt[1)]
  - 1.7.14 Parts per pound / lb[1)]
  - 1.7.15 Chinese taels / tlc[1)]
  - 1.7.16 Mommes / mom[1)]
  - 1.7.17 Austrian carats / k[1)]
  - 1.7.18 Tola / tol[1)]
  - 1.7.19 Baht / bat[1)]
  - 1.7.20 Mesghal / MS[1)]
  - 1.7.21 Tons / t
  - 1.7.22 Pounds: ounces[1)]
- 1.8. **Display accuracy 1[1)]**
  - 1.8.1* All digits
  - 1.8.2 Reduced by 1 decimal place for load change
  - 1.8.14 10-fold increased resolution
  - 1.8.15 Resolution increased by 2 scale intervals (e.g., 5 g to 1 g)
  - 1.8.16 Resolution increased by 1 scale interval (e.g., from 2 g to 1 g or from 10 g to 5 g)

[1)] Not available on instruments verified for use in legal metrology
[2)] Depends on weighing platform model

SETUP
WP-11

1.9.	**Calibration and adjustment**
1.9.1*	External calibration/adjustment; default weight
1.9.3	External calibration/adjustment; weight can be selected under menu item 1.18.1
1.9.10	No function when you press and hold →T← > 2 sec
1.10.	**Calibration/adjustment sequence**
1.10.1	Calibration with automatic adjustment
1.10.2*	Calibration with adjustment triggered manually
1.11.	**Zero-setting range**
1.11.1	1 percent/max. cap.
1.11.2*	2 percent/max.cap.
1.12.	**Initial zero-setting range**
1.12.2	2 percent/max. cap.
1.12.3	5 percent/max.cap. (setting depends on model)
1.12.4*	10 percent/max.cap.
1.13.	**Tare/zero at power on**
1.13.1*	On
1.13.2	Off, load previous tare value
1.13.3	Only zero at power on
1.15.	**Calibration prompt**
1.15.1*	Off
1.15.2	Calibration prompt (⧗) flashes on the display
1.16.	**External calibration/adjustment[1)]**
1.16.1*	Accessible
1.16.2[2)]	Blocked
1.17.	**Calibration weight unit**
1.17.1	Grams
1.17.2*	Kilograms
1.17.3	Tons
1.17.4	Pounds[1)]
1.18.	**Enter calibration weight**
1.18.1	External user-defined weight (enter value; e.g.: 10,000 kg)
3.1.	**Weight unit 2[3)]**
3.1.1	Grams / o
3.1.2	Grams / g
3.1.3*	Kilograms / kg
3.1.4	Carats /ct[1)]
3.1.5	Pounds /lb[1)]
3.1.6	Ounces /oz[1)]
3.1.7	Troy ounces / ozt[1)]
3.1.8	Hong Kong taels / tlh[1)]
3.1.9	Singapore taels / tls[1)]
3.1.10	Taiwanese taels / tlt[1)]
3.1.11	Grains / GN[1)]
3.1.12	Pennyweights / dwt[1)]
3.1.14	Parts per pound / lb[1)]
3.1.15	Chinese taels / tlc[1)]
3.1.16	Mommes / mom[1)]
3.1.17	Austrian carats /k[1)]
3.1.18	Tola / tol[1)]
3.1.19	Baht / bat[1)]
3.1.20	Mesghal / MS[1)]
3.1.21	Tons / t
3.1.22	Pounds:ounces[1)]
3.2.	**Display accuracy 2[1)]**
3.2.1*	All digits
3.2.2	Reduced by 1 decimal place for load change
3.2.14	10-fold increased resolution
3.2.15	Resolution increased by 2 scale intervals (e.g., 5 g to 1 g)
3.2.16	Resolution increased by 1 scale interval (e.g., 2 g to 1 g or from 10 g to 5 g)
3.3.	**Weight unit 3[3)] (settings as for 3.1, "Weight unit 2")**
3.4.	**Display accuracy[3)] (settings as for 3.2, "Display accuracy 2")**
9.1.	**Restore factory settings in WP1 numeric menu**
9.1.1	Yes
9.1.2*	No

[1)] = Not available on instruments verified for use in legal metrology
[2)] = Factory setting on instrument verified for use in legal metrology
[3)] = Menu depends on weighing platform model



Interface port 1 (optional)
(Display designation of this menu level: 2)

Off

Data protocol

SBI: standard version

Baud rate
150 baud
300 baud
600 baud
1200 baud
2400 baud
4800 baud
9600 baud
19,200 baud

Parity
Space[2)]
Odd
Even
None[3)]

Number of stop bits
1 stop bit
2 stop bits

Handshake mode
Software handshake
Hardware handshake, 1 character after CTS

Number of data bits
7 data bits
8 data bits

Data output: manual/automatic
Manual without stability
Manual after stability
Automatic without stability
Automatic with stability
Protocol for computer (PC)

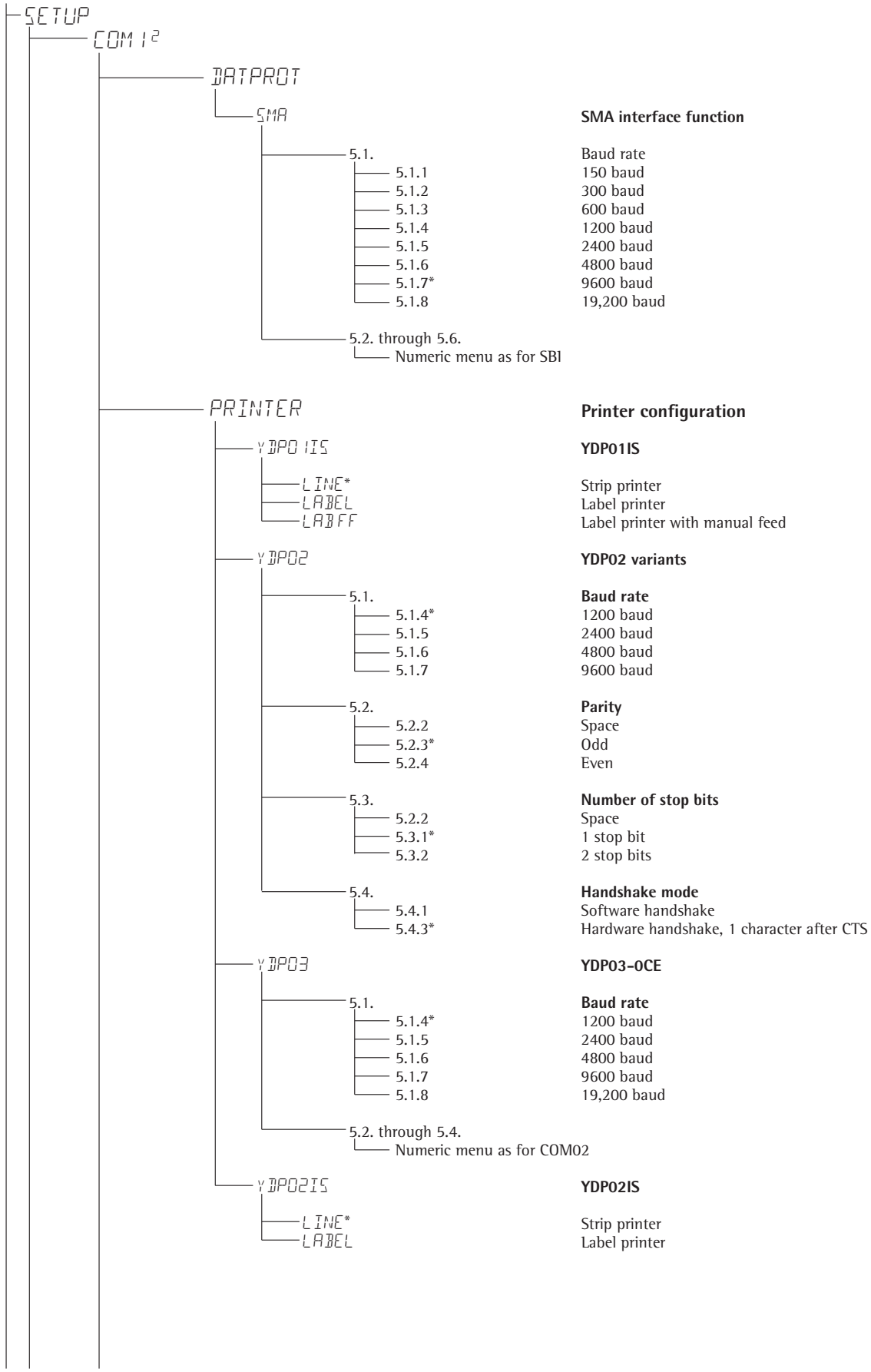
Time-dependent automatic data output
1 display update
2 display updates
10 display updates
100 display updates

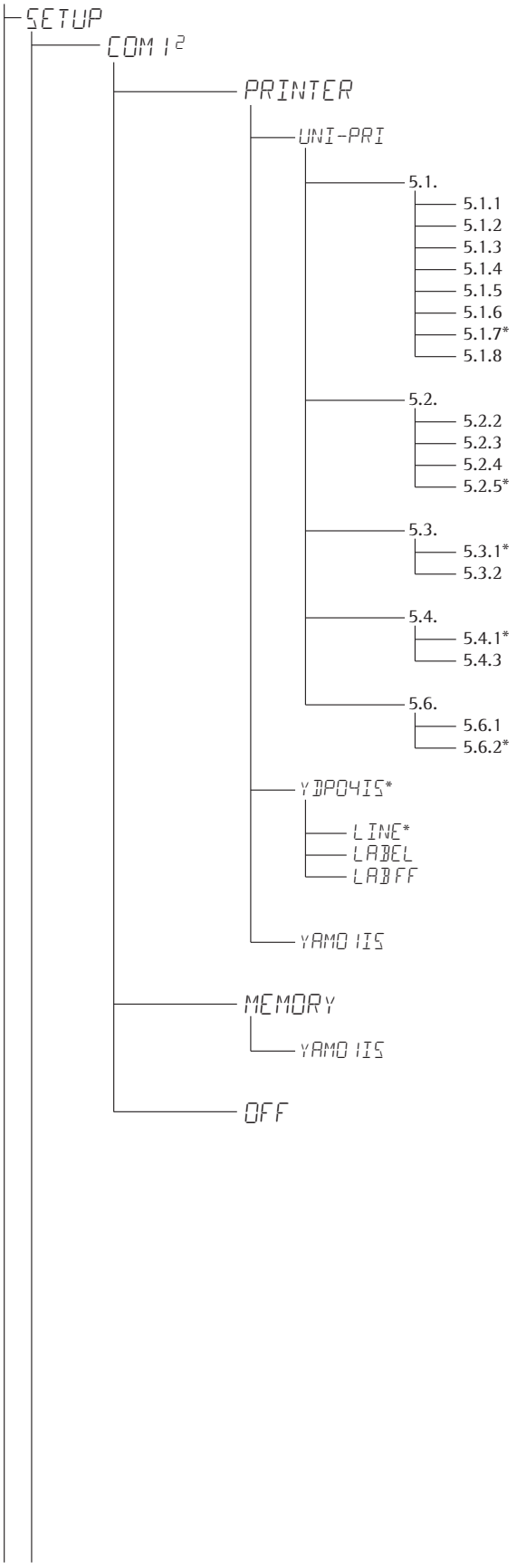
Data output: line format for printout
For raw data: 16 characters
For other applications: 22 characters

Restore factory settings in numeric menu COM1: SBI
Yes
No

XBPI-232

[1)] Menu depends on weighing platform model
[2)] not with setting 5.6.2 (8 bits)
[3)] not with setting 5.6.1 (7 bits)


SETUP
COM12
DATPROT
SMA
SMA interface function
5.1.
Baud rate
5.1.1
150 baud
5.1.2
300 baud
5.1.3
600 baud
5.1.4
1200 baud
5.1.5
2400 baud
5.1.6
4800 baud
5.1.7*
9600 baud
5.1.8
19,200 baud
5.2. through 5.6.
Numeric menu as for SBI
PRINTER
Printer configuration
YDP01IS
YDP01IS
LINE*
Strip printer
LABEL
Label printer
LABFF
Label printer with manual feed
YDP02
YDP02 variants
5.1.
Baud rate
5.1.4*
1200 baud
5.1.5
2400 baud
5.1.6
4800 baud
5.1.7
9600 baud
5.2.
Parity
5.2.2
Space
5.2.3*
Odd
5.2.4
Even
5.3.
Number of stop bits
5.2.2
Space
5.3.1*
1 stop bit
5.3.2
2 stop bits
5.4.
Handshake mode
5.4.1
Software handshake
5.4.3*
Hardware handshake, 1 character after CTS
YDP03
YDP03-0CE
5.1.
Baud rate
5.1.4*
1200 baud
5.1.5
2400 baud
5.1.6
4800 baud
5.1.7
9600 baud
5.1.8
19,200 baud
5.2. through 5.4.
Numeric menu as for COM02
YDP02IS
YDP02IS
LINE*
Strip printer
LABEL
Label printer



Universal interface

Baud rate
150 baud
300 baud
600 baud
1200 baud
2400 baud
4800 baud
9600 baud
19,200 baud

Parity
Space[1)]
Odd
Even
None[2)]

Number of stop bits
1 stop bit
2 stop bits

Handshake mode
Software handshake
Hardware handshake, 1 character after CTS

Number of data bits
7 data bits
8 data bits

YDP04IS

Strip printer
Label printer
Label printer with manual feed

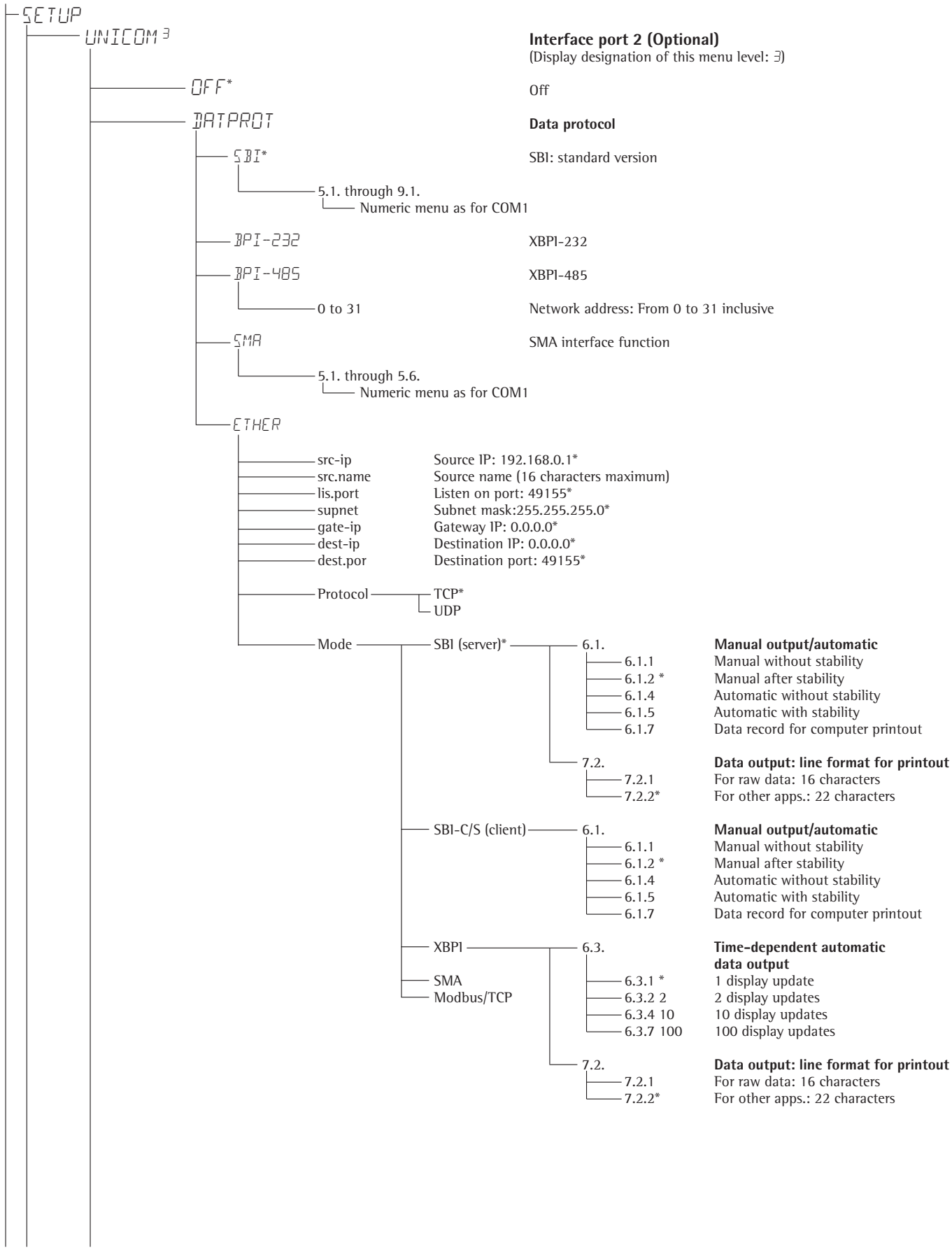
YAM01IS as electronic memory for print data

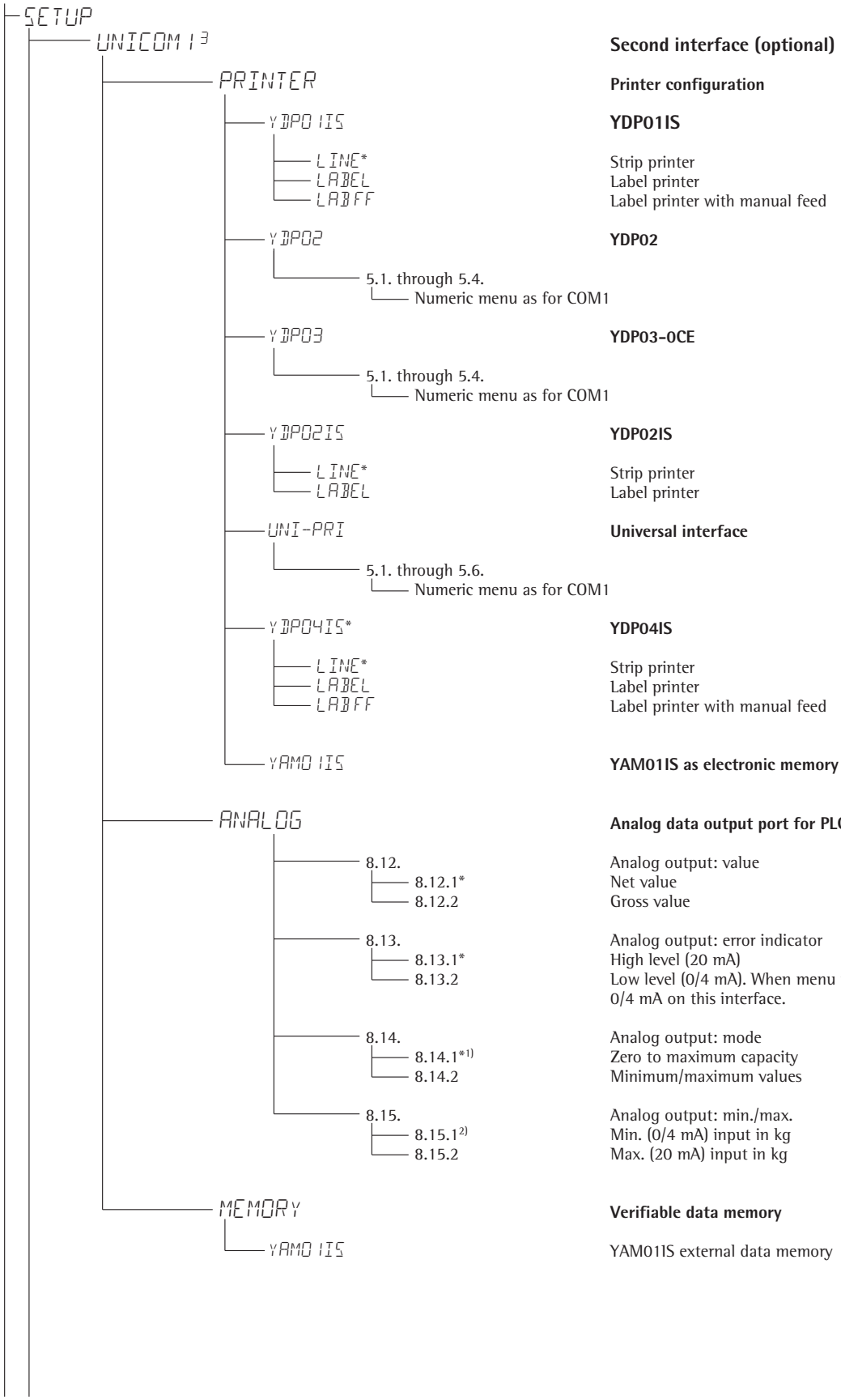
Verifiable data memory

YAM01IS external data memory

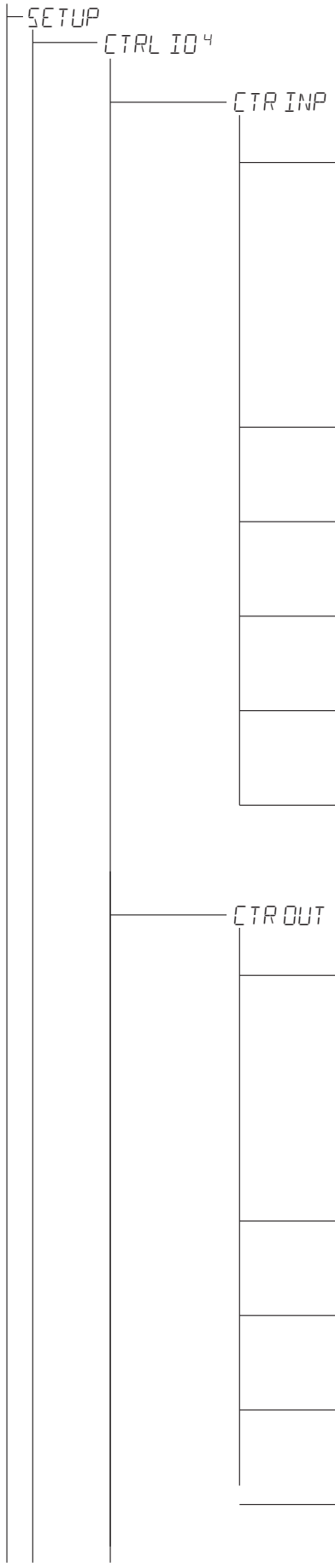
Disabled

[1)] not with setting 5.6.2 (8 bit)
[2)] not with setting 5.6.1 (7 bits)


SETUP
UNICOM 3
Interface port 2 (Optional)
(Display designation of this menu level: 3)
OFF*
Off
DATPROT
Data protocol
SBI*
SBI: standard version
5.1. through 9.1.
Numeric menu as for COM1
BPI-232
XBPI-232
BPI-485
XBPI-485
0 to 31
Network address: From 0 to 31 inclusive
SMA
SMA interface function
5.1. through 5.6.
Numeric menu as for COM1
ETHER
src-ip
Source IP: 192.168.0.1*
src.name
Source name (16 characters maximum)
lis.port
Listen on port: 49155*
supnet
Subnet mask:255.255.255.0*
gate-ip
Gateway IP: 0.0.0.0*
dest-ip
Destination IP: 0.0.0.0*
dest.por
Destination port: 49155*
Protocol
TCP*
UDP
Mode
SBI (server)*
6.1.
Manual output/automatic
6.1.1
Manual without stability
6.1.2 *
Manual after stability
6.1.4
Automatic without stability
6.1.5
Automatic with stability
6.1.7
Data record for computer printout
7.2.
Data output: line format for printout
7.2.1
For raw data: 16 characters
7.2.2*
For other apps.: 22 characters
SBI-C/S (client)
6.1.
Manual output/automatic
6.1.1
Manual without stability
6.1.2 *
Manual after stability
6.1.4
Automatic without stability
6.1.5
Automatic with stability
6.1.7
Data record for computer printout
XBPI
SMA
Modbus/TCP
6.3.
Time-dependent automatic data output
6.3.1 *
1 display update
6.3.2 2
2 display updates
6.3.4 10
10 display updates
6.3.7 100
100 display updates
7.2.
Data output: line format for printout
7.2.1
For raw data: 16 characters
7.2.2*
For other apps.: 22 characters



1) When setting 8.14.1 is active, analog data output only works for XBPI weighing instruments
2) not with setting 8.14.1



Control inputs/outputs

(Display designation of this menu level: 4)

Control inputs

For YDO01M-232CO; Option A1
Function for external control inputs (TTL)

Trigger [F] key function
Trigger [F] key (> 2 sec) function
Trigger [→T←] key function
Trigger [→T←] key (> 2 sec) function
Trigger [Fn] key function
Trigger [OK] key function — Midrics 2 only
Combined zero/tare function
Trigger [→0←] key function
Trigger [F] key function
Trigger [CF] key function — Midrics 2 only
Trigger [Info] key function — Midrics 2 only

For YDO01M-IO; Option A5
External input 1

Trigger [F] key function
<as under 8.4>
Trigger [Info] key function — Midrics 2 only

External input 2

Trigger [F] key function
<as under 8.4>
Trigger [Info] key function — Midrics 2 only

External input 3

Trigger [F] key function
<as under 8.4>
Trigger [Info] key function — Midrics 2 only

External input 4

Trigger [F] key function
<as under 8.4>
Trigger [Info] key function — Midrics 2 only

External input 5

Trigger [F] key function
<as under 8.4>
Trigger [Info] key function — Midrics 2 only

Control outputs

For YDO01M-IO; Option A5
External output 1

Weighing instrument ready to operate
Weighing instrument stable
Weighing instrument overflow (“H”)
Weighing instrument underflow (“L”)
Value in tare memory
Below minimum sample quantity — Midrics 2 only
Over minimum sample quantity — Midrics 2 only
Lighter — Midrics 2 only
Equal — Midrics 2 only
Heavier — Midrics 2 only
Set — Midrics 2 only

External output 2

Weighing instrument ready to operate
<as under 8.24>
Set

External output 3

Weighing instrument ready to operate
<as under 8.24>
Set

External output 4

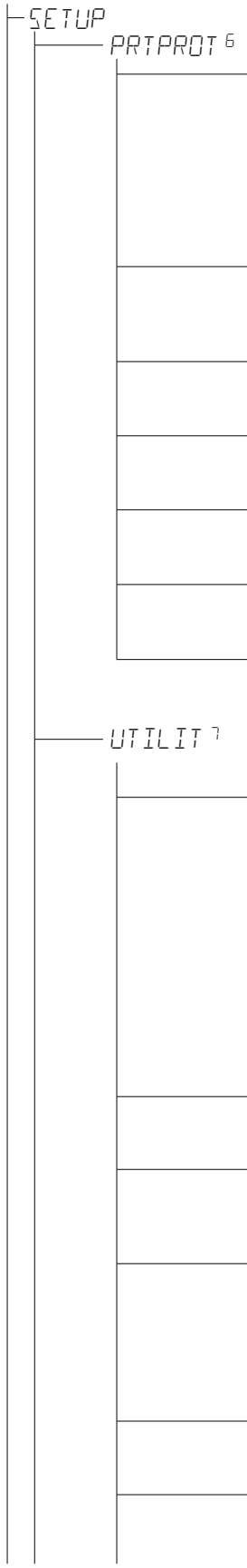
Weighing instrument ready to operate
<as under 8.24>
Set

External output 5

Weighing instrument ready to operate
<as under 8.24>
Set

- SETUP
  - BARCODE 5 — **Bar code** (Display designation of this menu level: 5)
    - REF* — Store value as reference weight
    - TARE* — Store as tare value (i.e., tare the scale)
    - ID 1 — Store value as ID code 1
    - INPUT — Enter value on display (triggered when a key is pressed)
    - HEADER — Store value as tare or ID code, depending on bar code header
    - EXT.KEYB — External computer keypad
  - PRTPROT 6 — **Printouts** (Display designation of this menu level: 6)
    - 7.4. — **Header input**
      - 7.4.1 (blank) — Header line 1 (max. 20 characters); example: “MEYER’S”
      - 7.4.2 (blank) — Header line 2 (max. 20 characters); example: “STEEL”
      - 7.4.3 (ID 1) — ID code name for ID 1 (max. 40 characters)
      - 7.4.4 (ID 2) — ID code name for ID 2 (max. 40 characters)
      - 7.4.5 (ID 3) — ID code name for ID 3 (max. 40 characters)
      - 7.4.6 (ID 4) — ID code name for ID 4 (max. 40 characters)
    - 7.5. — **COM1 interface**
      - 7.5.1* — 1 printout
      - 7.5.2 — 2 printouts
    - 7.6. — **Optional “UniCOM” interface**
      - 7.6.1* — 1 printout
      - 7.6.2 — 2 printouts
    - 7.7. — **COM1 interface:** Configure standard printout (press [F], [OK])
      - 7.7.1* [1] — Header lines 1, 2 (content: see menu codes 7.4.x)
      - 7.7.2* [1] — Date and time
      - 7.7.3* [1] — Initialization data for the application program
      - 7.7.4* [1] — Weighing instrument designation
      - 7.7.5* [1] — Result from the application program
      - 7.7.6* [1] — ID codes 1 and 2
      - 7.7.7 [1] — 2 additional blank lines
      - 7.7.8 [1] — 3 additional blank lines
    - 7.8. — **Optional “UniCOM” interface** Configure standard printout (press [F], [OK])
      - 7.8.1* [1] — Header lines 1, 2 (content: see menu codes 7.4.x)
      - 7.8.2* [1] — Date and time
      - 7.8.3* [1] — Initialization data for the application program
      - 7.8.4* [1] — Weighing instrument designation
      - 7.8.5* [1] — Result from the application program
      - 7.8.6* [1] — ID codes 1 and 2
      - 7.8.7 [1] — 2 additional blank lines
      - 7.8.8 [1] — 3 additional blank lines
    - 7.9. — **COM1 interface:** Print results when [CF] pressed in Totalizing and Net-total applications
      - 7.9.1* [1] — Header lines 1, 2 (content: see menu codes 7.4.x)
      - 7.9.2* [1] — Date and time
      - 7.9.4* [1] — Weighing instrument designation
      - 7.9.5* [1] — Result from the application program
      - 7.9.7 [1] — 2 additional blank lines
      - 7.9.8 [1] — 3 additional blank lines

[1] More than one can be selected



Optional "UniCOM" interface
Print results when [CF] pressed in
Totalizing and Net-total applications
Header lines 1, 2 (content: see menu codes 7.4.x)
Date and time
Weighing instrument designation
Result from the application program
2 additional blank lines
3 additional blank lines

GMP data record or printout
Off
On for one result
On for multiple result

Date/time printout line: Time not printed
Off
On

One-time automatic printout at stability
Off
On

FlexPrint
Off
On

Decimal separator
Period
Comma

Restore factory settings of the numeric menu for data protocol
Yes
No

Operation

(Display designation of this menu level: 7)

Keys

All available		
All blocked		
Keys [0], [1], [2], etc.	blocked	Midrics 2 only
[→0←] key	blocked	
[→T←] key	blocked	
[Fn] key	block	
[-/] key	block	
[CF] key	blocked	Midrics 2 only
[REF] key	blocked	Midrics 2 only
[OK] key	blocked	Midrics 2 only
[⮌] key	blocked	Midrics 2 only
[Info] key	blocked	Midrics 2 only
[ID] key	blocked	Midrics 2 only

Automatic shutoff of display and control unit
Automatic shutoff acc. to menu item 8.9.
No automatic shutoff

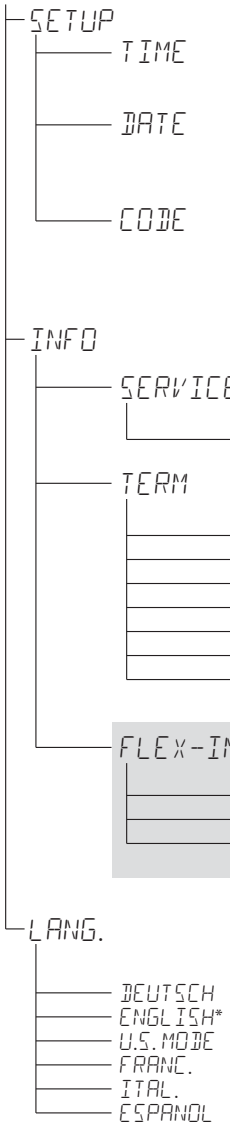
Display lighting
On
Off
Automatic shutoff acc. to menu item 8.9.

Timer mode
After 1 + 1 minute not in use
(after 1 min.: warning 2) is displayed for 1 minute)
After 2 + 2 minutes not in use
(after 2 min.: warning 2) is displayed for 2 minutes)
After 5 + 5 minutes not in use
(after 5 min.: warning 2) is displayed for 5 minutes)

Show geographical data before calibration
No
Yes

Restore factory settings of the numeric operating menu
Yes
No

1) More than one can be selected
2) Warning: the ΔΔ symbol and weighing platform numbers 1 and 2 flash simultaneously



Time (optional)
Format for setting the time (example): 10.07.41 (hours.minutes.seconds)

Date (optional)
Format for setting the date (example): 01.05.07 (day.month.year);
U.S. mode: (month.day.year)

Password
Set, change and delete password here.
Max. 8 characters); example: 12345678

Device information

Service information

Service date

Display and control unit (“terminal”)

Model
Serial number
Software version
Appl. software
Geographical latitude (in degrees) [1]
Geographical altitude (in meters) [1]
Acceleration of gravity m/s² [1]

Flex Print

File name[2]
ID[2]
Version[2]

Language for calibration/adjustment and GMP printouts

German
English
English with U.S. date/time format
French
Italian
Spanish

[1] Output: either latitude and altitude or acceleration of gravity (depends on the input before verification)
[2] These three parameters are shown for each file loaded

Basic Weighing Function

Weighing
The basic weighing function is always accessible and can be used alone or in combination with application programs, such as Counting, Checkweighing, Weighing in Percent, etc.

Features
- Zero the scale →0←
- Store the weight on the platform as tare by pressing →T←

  Midrics 2 only:
- Use the numeric keys to enter a tare weight (press →T← to save)
- Tare container weight automatically
- Delete tare values by entering 0 (press →T← to save)
- Press Fn to toggle the display between:
  - Gross and net values, or
  - Normal and 10-fold increased resolution (displayed for max. 5 seconds)

  Midrics 2 only:
- Individual ID codes for weight values
- Print weight values:
  - Manually, by pressing
  - Automatically (see “Data Output Functions”)
  - With GMP-compliant format (see “Data Output Functions”)
- Restore factory settings by selecting the corresponding menu setting

Automatic Taring
The first weight on the scale that exceeds the preset minimum load is stored in the tare memory at stability. The values for subsequent loads are stored as weight values. The scale returns to the initial state when the load is less than 50% of the minimum load.

Minimum Load
To tare container weights automatically, set the minimum load in the operating menu.

You can choose from 10 settings, defined in scale intervals (digits), ranging from:

1 digit (no minimum load)
to
1000 digits

The “digits” here refer to the scale intervals in the connected weighing platform. Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Automatic Printing
The first weight value that exceeds the minimum load is printed.

Device Parameters

Keys
The keypad can be blocked.
There are four settings to choose from:
- All keys unblocked
- All keys blocked except I/⏻ and SETUP
- Numeric keypad blocked
- One specified key blocked (see the menu in the chapter entitled “Configuration” for options)

Display
You can have the display backlighting shut off automatically when not in use

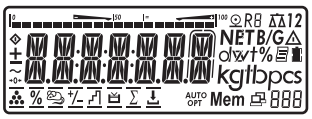
Automatic Shutoff
You can have the display and control unit shut off automatically.

Timer Mode
There are three timer settings for the shutoff functions: two, four and ten minutes.

Settings
See the chapter entitled “Configuration.”

Example with Midrics 2:
Switch on; zero; tare container weight; place sample in container;
toggle display to gross weight, second weight unit or 10-fold higher resolution; print results.

I/⏻

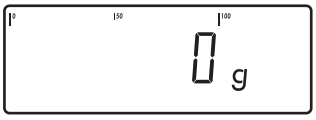


1. Switch on the scale

   All display segments are shown for about 1 second (self-test)

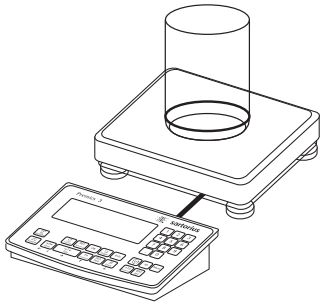
Display with no load on scale

→0←

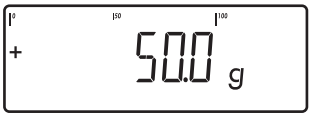


2. Zero the scale

   Display with no load on scale

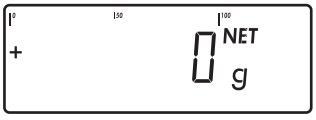


3. Place container on weighing platform



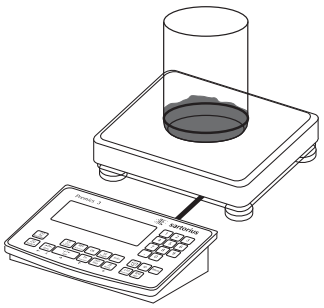
Container weight is displayed

→T←



4. Tare the scale

   Display (NET) when tared with container

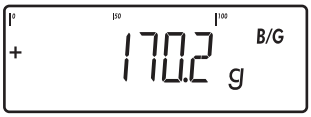


5. Place sample in container (in this example, 120.2 g)

Display with tared scale and sample in container

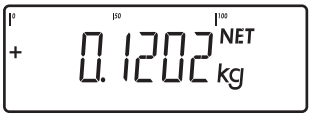
Fn

6. Toggle display; readout depends on your settings:



Gross weight (in this example, 50 g for container +120.2 g substrate)

or



display in 2nd weight unit (in this example, kg) or

Weight displayed in second weight unit (in this example, kg)

or

Weight displayed with 10-fold increased resolution

Fn

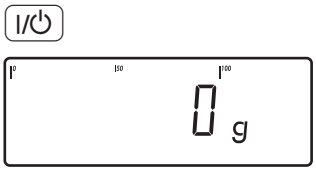
7. Return to previous display (if 10-fold increased resolution is shown, display returns to previous readout automatically after 10 seconds.)

8. Print results

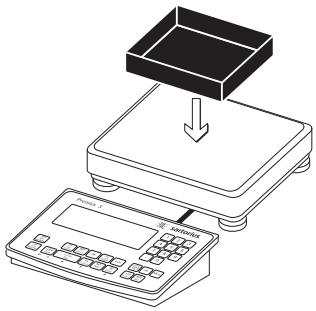
```
     ACE HARDWARE
      GOETTINGEN
24.02.2006      15:10
--------------------

G#      +     170.2 g
T       +      50.0 g
N       +     120.2 g
--------------------
```

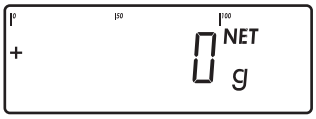
Example with Midrics 2
Tare the scale by placing a container on the weighing platform



1. Switch on the scale
   The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press →0← to reset the unloaded weighing platform to zero at any time.

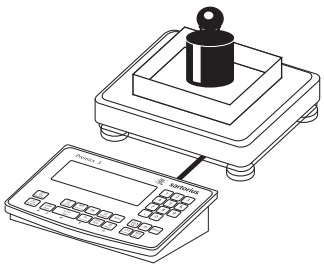


2. Place empty container on the platform

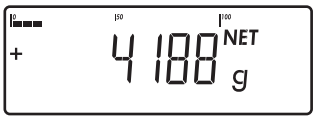


3. Tare the scale.
   Note: If the automatic tare function is active, you do not need to press →T← to tare the scale; the tare weight is stored automatically when you place the container on the platform.

   Wait until a zero value is displayed together with the NET symbol.

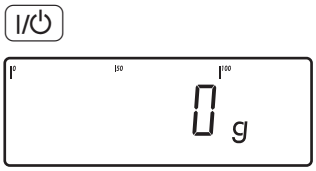


4. Place sample on the platform



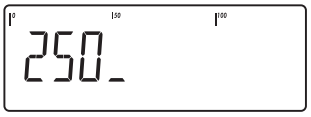
Wait until the weight unit symbol is displayed (indicating stability) and read the weight value

Example with Midrics 2:
Enter the tare value using the keypad; print the results



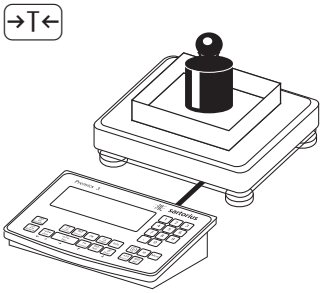
1. Switch on the scale
   The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press →0← to reset the unloaded weighing platform to zero at any time.

2 5 0



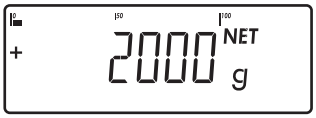
2. Enter the tare weight in the current weight unit using the keypad (in this example, 250 g).

→T←



3. Save the tare weight.

4. Place the sample (in this example, 2000 g) in its container on the scale.

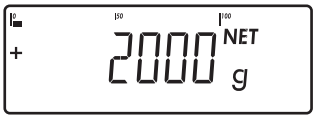


Read the result

Fn

5. Toggle the display from net to gross weight values. The display shows the gross weight (in this example, 250 g for the container plus 2000 g for the sample).

Fn



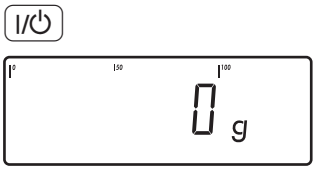
6. Return to the previous display.

7. Print the results.

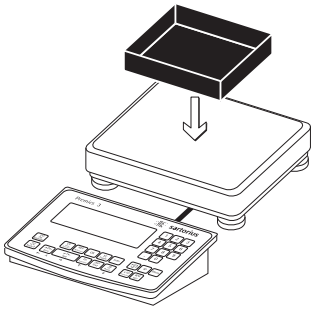
```
--------------------

G#     +     2.250 kg
T      +     0.000 kg
PT2    +     0.250 kg
N      +     2.000 kg
--------------------
```

Example with Midrics 2:
Weigh with varying tare values; print the results; delete tare values

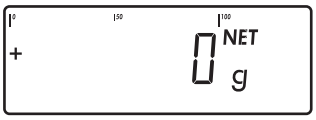


1. Switch on the scale
   The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press →0← to reset the unloaded weighing platform to zero at any time.

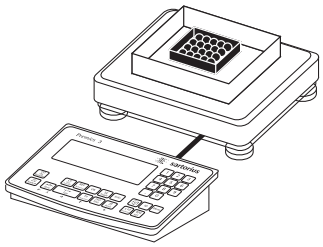


2. Place empty container on the platform

3. Tare the instrument
   Note: If the automatic tare function is active, you do not need to press →T← to tare the scale; the tare weight is stored automatically when you place the container on the platform.



   Wait until a zero value is displayed together with the NET symbol.



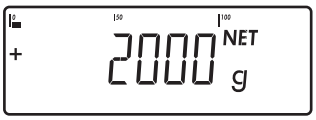
4. Place the sample in its packaging (second tare value) in the container.

2 5 0

5. Enter the tare weight of the packaging in the current weight unit using the keypad (in this example, 250 g).

→T←

6. Save the package weight you entered (the two tare values are added together).



Read the net weight

7. Print the results.

```
G#      +     6.433 kg
T       +     4.183 kg
PT2     +     0.250 kg
N       +     2.000 kg
--------------------
```

0

8. Clear the tare memory: Enter a zero (“0”) using the keypad

→T←

9. Save the value entered (0). This deletes tare values; the display shows the gross value.

10. Print the results.

```
G#      +     6.433 kg
T       +     0.000 kg
N       +     6.433 kg
--------------------
```

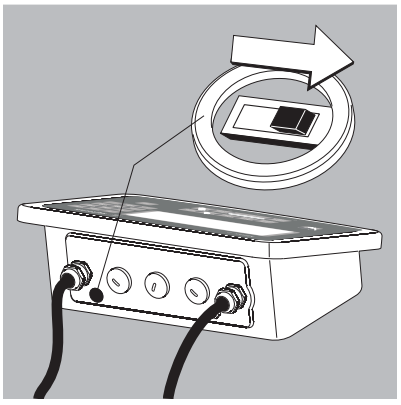
Calibration and Adjustment

Purpose
Perform calibration to determine the difference between the value displayed and the actual weight on the platform. Calibration does not entail making any changes within the weighing instrument.

Perform adjustment to eliminate any difference determined, or to reduce it to a level that is within the applicable tolerance limits.

Configuration for Use in Legal Metrology
To configure the Midrics for use in legal metrology (select VERIF. in ADC configuration), adjust the switch on the back of the display and control unit. The switch is covered by a protective cap.

Position:
- Switch on the right: For use in legal metrology
- Switch on the left: External calibration/ adjustment accessible



Features
You can configure the parameters listed below in the operating menu. Which of the features listed here are available depends on the connected weighing platform.

– External calibration/adjustment blocked in verified weighing instruments

– External calibration/adjustment with the default weight value or standard weight (not available on verified instruments). Configure under:
SETUP
WP- 1
1.9.: (Calibration and adjustment)

– Specify the weight for external calibration/adjustment:
SETUP
WP- 1
1.18.: (Enter calibration weight)

– Block the →T← key to prevent use of the two functions described above (1.9.10):
SETUP
WP- 1
1.9.: (Calibration and adjustment)

– Calibrate first; then adjust automatically or manually (not on verified weighing instruments):
SETUP
WP- 1
1.10.: (Calibration/adjustment sequence)

– Flashing WP symbol as adjustment prompt. If more than one weighing platform is connected, the platform number is also displayed:
SETUP
WP- 1
1.15.: (Calibration prompt)

– Block external calibration/adjustment:
SETUP
WP- 1
1.16.: (External calibration)

Note
On verified weighing instruments, the external calibration/adjustment function is available only when the menu access switch is in the "open" position, which entails breaking the verification seal. The equipment must be re-verified after the seal has been broken.

Preparation

- Switch on the scale: Press I/⏻
- While all segments are lit, press the →T← key
- Select the Setup menu: Press Fn repeatedly until SETUP is displayed
- Open the Setup menu: Press the →T← key
- ○ Select weighing platform 1, "WP 1": Press the →T← key, or
- ○ Select interface 1, "COM 1" or interface 2, "COM2" (depending on the interface used): Press the →T← key

SETUP
- WP- 1 1
- 1.9. Calibration and adjustment
  - 1.9.1* Ext. calibration/adjustment; default weight
  - 1.9.3 Ext. calibration/adjustment; user-defined weight (menu code 1.18.1)
  - 1.9.10 No function when you press and hold →T← > 2 sec
- 1.10. Calibration/adjustment sequence
  - 1.10.1 Calibration with automatic adjustment
  - 1.10.2* Calibration with adjustment triggered manually
- 1.11. Zero-setting range
  - 1.11.1 1 percent/max. cap.
  - 1.11.2* 2 percent/max. cap.
- 1.12. Initial zero-setting range
  - 1.12.2 2 percent/max. cap.
  - 1.12.3 5 percent/max. load
  - 1.12.4* 10 percent/max. load
- 1.13. Tare/zero at power on
  - 1.13.1* On
  - 1.13.2 Off; load previous tare value
  - 1.13.3 Only zero at power on
- 1.15. Calibration prompt
  - 1.15.1* Off
  - 1.15.2 Calibration prompt (⚖) flashes on the display
- 1.16. External calibration/ adjustment[1)]
  - 1.16.1* Accessible
  - 1.16.2 [2)] Blocked
- 1.17.
  - 1.17.1 Grams
  - 1.17.2* Kilograms
  - 1.17.4 Pounds [1)]
- 1.18. Enter calibration weight
  - 1.18.1 External user-defined weight; (enter value; e.g.: 10,000 g)

- Save settings and exit operating menu: →0← key (repeatedly)

1) = Setting cannot be changed on scales verified for use in legal metrology
2) = Factory setting on instruments verified for use in legal metrology

Example:
External calibration and manual adjustment with default weights (weighing parameters: factory settings)

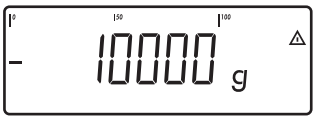
→0←

1. Zero the scale.

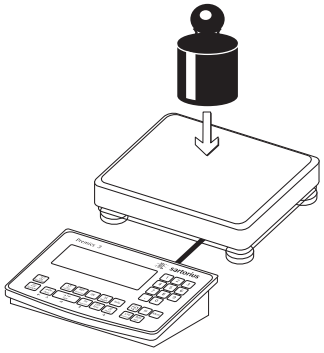
ISO-Test

2. Start calibration (e.g., after calibration prompt: flashing WP symbol).

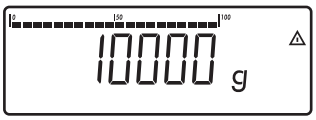
C.EXT.DEF is shown for two seconds.

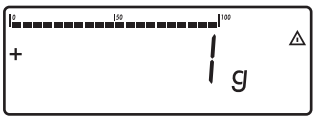


You are prompted to place the required weight on the platform (e.g., 10,000 kg)



3. Position the calibration weight on the weighing platform





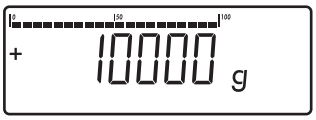
The difference between measured value and the true mass is shown with a plus or minus sign.

```
Ext.     calibration
Nom.  +      10000 g
Diff. +          1 g
```

Printout is generated, if adjustment was not performed and the procedure was cancelled by pressing →0←.

→T←

4. Start adjustment (or cancel calibration/adjustment by pressing →0←).



After adjustment, the calibration weight value is displayed.

```
--------------------
24.10.2006      10:15
Typ              MW1P1
Ser.no.      12345678
Vers.    1.0103.11.2
BVers.       01-26-06
--------------------
Ext.     calibration
Nom.  +    10000 g
Diff. +          1 g
Ext.      adjustment
Diff. +          0 g
--------------------
24.10.2006      10:15
Name:

--------------------
```

A GMP-compliant printout is generated.

Data ID Codes

Midrics 2 only:
You can assign codes (such as product name, batch number, etc.) for identification of measured values on printouts.

Features

- Assign up to four ID codes.
- Assign both a name and a value for each ID code.
- The name is left-justified and the value is right-justified on the printout. If the entire code is too long for one line, additional lines are printed.
- Enter ID code names in the operating menu under:
  SETUP
  PRTPROT: 7.4.
  Enter up to 20 characters for the ID code name. No more than 11 characters are displayed during input; all 20 characters are printed.
- Enter up to 40 characters for the value of the ID code. Press the ID key to activate the input mode.
- You can delete characters from the ID code by pressing the CF key.
- If both the name and value fields are empty, no ID code is printed.
- In the operating menu, you can configure when and whether ID codes are printed (see "Configuring Printouts" on page 65).

Factory settings for the ID code names:

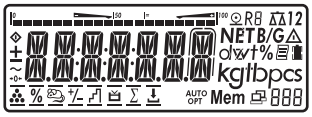
ID1: ID1
ID2: ID2
ID3: ID3
ID4: ID4

Factory settings for the ID code values:
No default values set.

Example with Midrics 2:
Enter ID code names.
Enter "Batch no." and "Cust." as names for ID codes 1 and 2.

I/⏻

1. Switch on the scale



→T←

2. While all segments are lit, press the →T← key

   The first item in the main menu is shown: APPL

Fn

3. Select the SETUP menu to access scale configuration functions (press Fn repeatedly until SETUP is displayed)

→T←

4. Open the Setup menu

5. Select the PRTPROT menu item to access ID code settings (press Fn repeatedly until PRTPROT is displayed)

→T←

6. Select the menu item for header and ID code settings

→T←

7. Press Fn repeatedly until 7.4. 1 is displayed.

→T←

8. Press →T← to activate alphanumeric input.

(F), (F), (F)

9. Enter the first character using the (F) and Fn keys (in this example, the first character is "C")

→T←

10. Save the character

11. Proceed as described above to enter subsequent characters.

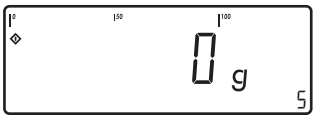
After entering the last character, press →T← to save the code.

→0←

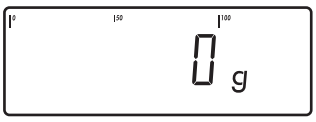
12. Exit the active submenu to configure other menu settings, or

→T←

13. Press and hold →T← to exit the operating menu



Example with Midrics 2:
Enter ID code values.
Enter "123" as the value for ID code 2.



ID

1. Activate ID input.

1 2 3

2. Enter the desired value for ID code 2 (in this example: 123).

OK

3. Press OK to conclude input.

4. Place sample on the platform

(F)

5. Print the weight value

```
ID2                123
24.02.2006      10:09
--------------------
Ser.no       12345678
G#     +        1083 g
T      +        0000 g
N      +        1083 g
```

ID code 2

6. Deleting ID codes:
ID codes are deleted one at a time; for example, when the weighing operations have been completed

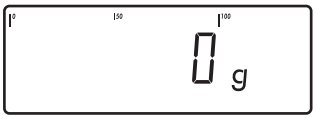
ID, CF

Delete ID code 1

ID, CF

Delete ID code 2

Example with Midrics 2:
Enter a value for ID code 1 directly.



1 2 3

1. Enter the desired value for ID code 1 (in this example: 123).

ID

2. Store the value as ID 1

3. Place sample on the platform

(F)

4. Print the weight value

```
ID1                123
24.02.2006      10:09
--------------------
Ser.no       12345678
G#     +        1083 g
T      +        0000 g
N      +        1083 g
```

ID 1

5. Delete the ID code:
see Item 6 in the previous example

Application Programs

Applications: Overview

	Midrics 1	Midrics 2
Keypad	5 keys	11 keys + numeric keypad
Display	14-segment	14-segment plus application symbols
Applications		
Basic weighing	X	X
Averaging (animal weighing)		X
Print/send data record to peripheral device	X	X
Label printing		X
Counting		X
Totalizing		X
Checkweighing		X
Batching to a target value		X
Functions		
Zero-setting	X	X
Taring	X	X
Date and time	Optional	Optional
ID codes (4 codes, 40 char. each)		X
Bar code		Optional

Application: Counting ⁂

With the Counting program you can determine the number of parts that each have approximately equal weight.

Features

- Enter the reference piece weight "WREF" via the keypad
- Save the reference weight "WREF" from the weighing platform
- Enter the reference sample quantity "NREF" via the keypad
- Automatic reference sample updating
- Activate info-mode by pressing [Info]
- Toggle the display between quantity and weight by pressing [⇆]
- Define the resolution (level of accuracy) applied when a calculated reference sample weight is stored
- Automatic taring of container weight. Configuration:
  APPL ⁂: 3.7.
  (autotare first weight)
- Automatic initialization when the Midrics is switched on. The display and control unit is initialized with the most recently used values for reference sample quantity "NREF" and reference sample weight "WREF". Configuration:
  APPL ⁂: 3.8.
  (start app. with last values)
- Closing application program; deleting parameters:
  The value for reference sample weight remains active in the reference memory until you delete it by pressing the [CF] key, overwrite it or until you select a different application. It also remains saved after the scale has been switched off.
- Restore factory settings. Configuration:
  APPL ⁂: 9.1.

Before the quantity on the platform can be calculated, the reference sample (average weight of one piece) must be entered in the application. This is known as "initializing" the application. There are three ways to enter this value:

- Calculation:
  - Place the number of parts defined as the reference sample quantity on the weighing platform and press [OK] to calculate the reference sample weight
  - Alternatively, you can place any number of parts on the weighing platform, enter the number of parts using the keypad, and then press the [REF] key to calculate the average piece weight

  How the reference weight is calculated depends on the application setting for resolution ("Resolution for calculation of reference value"). The value is either rounded off in accordance with the display resolution, or saved with 10-fold or 100-fold increased resolution or with the maximum internal resolution of the weighing platform.
- Keypad input: Enter a reference sample weight (i.e., the weight of one piece) using the keypad and press [OK] to save it.

After initialization, you can use the weighing platform to count parts. The initial application values are valid until deleted by pressing the [CF] key, or until overwritten by new values. They also remain saved after you switch off the scale.

- Tare function:
  1) If you store a tare (weight value) by pressing the [→T←] key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1
  (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting:
  APPL ⁂: 3.25.

Application: Counting ⁂

Preparation

- Switch on the scale: Press [I/⏻]
- While all segments are lit, press the [→T←] key
- Select the Application menu: Press [Fn] repeatedly until APPL is displayed
- Open the Application menu: Press the [→T←] key
- Select the Counting application: Press the [Fn] key repeatedly until the desired menu item is displayed and press [→T←] to open the submenu

Application Parameters: Counting

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for initialization
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.9. Resolution for calculation of reference value
  - 3.9.1* Display resolution
  - 3.9.2 Display resolution +1 decimal place
  - 3.9.3 Display resolution +2 decimal places
  - 3.9.4 Internal resolution
- 3.11 Parameter for saving weight values
  - 3.11.1* At stability
  - 3.11.2 At increased stability
- 3.12. Average piece weight updating
  - 3.12.1 Off
  - 3.12.3* Automatic
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten

* = Factory setting

- Press [→T←] to save your settings and [→0←] (repeatedly) to exit the operating menu

Minimum Load
To tare container weights automatically, set the minimum load in the operating menu.

The minimum load required for initialization of the weighing platform is configured in the operating menu under:
APPL ⁂: 3.6.

- The error code INF 29 is displayed
- The weighing platform is not initialized
- The preset reference sample quantity is saved

You can choose from 10 settings, ranging from

1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Resolution for Calculation of Reference Value
The resolution applied for calculating the reference weight is defined in the operating menu under:
APPL ⁂: 3.9.
The resolution for calculating the reference sample weight is increased if "+1 decimal place", "+2 decimal places" or "With internal resolution" is selected. With the "+1 decimal place" setting, the net value is determined to one additional decimal place (i.e., display accuracy × 10); the "+2 decimal places" increases display accuracy × 100, and so on up to the maximum resolution available.

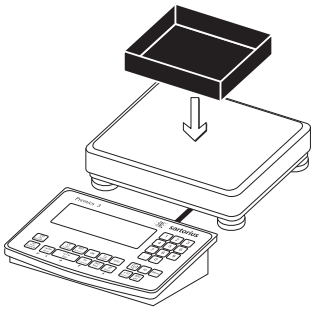
Parameter for Saving Weight Values
The weight on the platform is saved as a reference when the platform has stabilized. If you select "At increased stability," the average piece weight stored will be more accurate and the results more reproducible, but the response time of the weighing instrument might be longer.

Reference Sample Updating
The average piece weight (APW) is updated automatically only when the following 4 criteria are met:

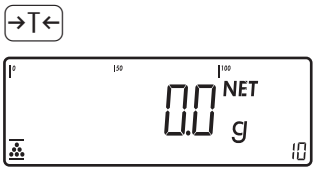
1. The current piece count exceeds the original piece count by at least two.
2. The current piece count is no more than double the original piece count.
3. The new piece count is less than 1000.
4. The scale is stable in accordance with the defined stability parameter.

AUTO Indicates that APW update is active.
OPT Indicates that the reference sample is currently being updated.
During an updating operation, OPT and the updated piece count are displayed briefly in the measured value line.

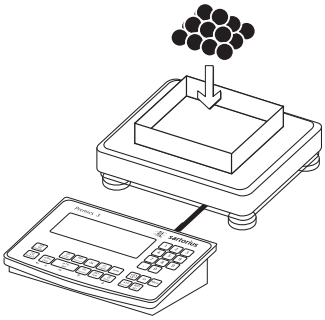
Example:
Determining the number of uncounted parts.
Settings (changes in the factory settings required for this example):
Setup: Application: Counting
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)



1. Place empty container on the platform



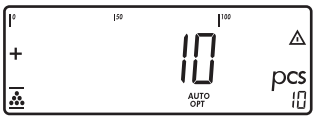
2. Tare the scale
   Note: If the automatic tare function is enabled, you do not need to press the →T← key to tare the scale; the tare weight is saved automatically when you place the container on the platform



3. Place a number of parts in the container for the reference quantity (in this example, 10 pcs)

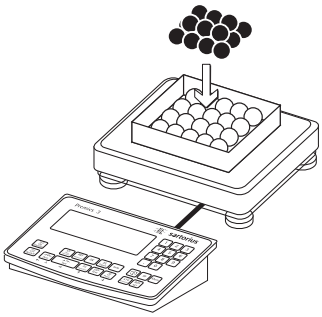
OK

4. Activate calculation of the reference sample weight

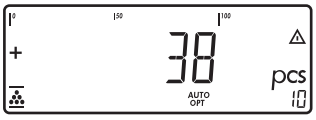


If the weight is too light, *INF 29* is displayed.

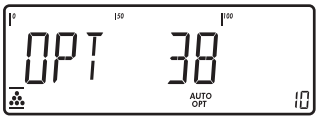
In this case, reduce the minimum load setting or increase the number of parts in the container and reset the reference sample quantity accordingly.



5. Add more parts to the container



Read the result



OPT is displayed if automatic reference sample updating is enabled

6. Print the results

```
nRef   +        38 pcs
wRef   + 0.003280 kg

G#     +     0.373 kg
T      +     0.248 kg
N      +     0.125 kg

Qnt              38 pcs
--------------------
```

Configured printout: see page 65

Application: Neutral Measurement ⁂ nN

With this application you can use your weighing platform to measure the length, surface and volume of parts that have roughly the same specific weight. The ○ symbol is displayed as the weight unit.

Features
Enter the reference weight "WREF" via the keypad

- Save the reference weight "WREF" from the weighing platform
- Enter the factor for calculation "NREF" via the keypad
- Activate info-mode by pressing [Info] (> sec)
- Toggle the display between measurement and weight by pressing [⇆]
- Define the level of accuracy (display resolution) applied when a calculated reference weight is saved
- Automatic taring of container weight. Configuration:
  APPL ⁂ nN: 3.7.
  (autotare first weight)
- Automatic initialization when the Midrics is switched on. The scale is initialized with the most recently used calculation factor "nRef" and reference weight "wRef".
  Configuration:
  APPL ⁂ nN: 3.8.
  (start app. with last values)
- Closing application program; deleting parameters:
  The value for reference sample weight remains active in the reference memory until you delete it by pressing the [CF] key, overwrite it or until you select a different application. It also remains saved after the scale has been switched off.
- Restore factory settings. Configuration:
  APPL ⁂ nN: 9.1.

In order to calculate the length, surface or volume of a given sample, the average weight of a reference quantity of the sample must be known (in the example below, the reference is 1 meter of electrical cable).
There are three ways to enter the reference weight in the program:

- Calculation:
  - Place the reference quantity (defined by the calculation factor) on the connected weighing platform and calculate the reference sample weight by pressing the [OK] key.
  - Place any amount of the sample material on the connected weighing platform, enter the calculation factor through the keypad, and press the [OK] key to calculate the reference sample weight.

  How the reference weight is calculated depends on the application setting for resolution ("Resolution for calculation of reference value"). The value is either rounded off in accordance with the display resolution, or saved with 10-fold or 100-fold increased resolution or with the maximum internal resolution of the weighing platform.
- Keypad input: Enter the reference weight (i.e., the weight of one meter of electrical cable) using the keypad and press [OK] to save it.

  The initial application values are valid until deleted by pressing the [CF] key, or until overwritten by new values. They also remain saved after you switch off the scale.

Preparation

- Switch on the scale: Press [I/⏻].
- While all segments are lit, press the [→T←] key
- Select the Application menu: Press [Fn] repeatedly until APPL is displayed
- Open the Application menu: Press the [→T←] key
- Select the Neutral Measurement application: Press the [Fn] key repeatedly until the desired menu item is displayed and press [→T←] to open the submenu

- Tare function:
  1) If you store a tare (weight value) by pressing the [→T←] key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1
  (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting:
  APPL ⁂ nN: 3.25.

Application Parameters: Neutral Measurement

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3. 6. Minimum load for initialization
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.9. Resolution for calculation of reference value
  - 3.9.1* Display resolution
  - 3.9.2 Display resolution +1 decimal place
  - 3.9.3 Display resolution + 2 decimal places
  - 3.9.4 Internal resolution
- 3.10. Decimal places in displayed result
  - 3.10.1* None
  - 3.10.2 1 decimal place
  - 3.10.3 2 decimal places
  - 3.10.4 3 decimal places
- 3.11. Parameter for saving weight values
  - 3.11.1* At stability
  - 3.11.2 At increased stability
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten

* = Factory setting

- Press [→T←] to save your settings and [→T←] (repeatedly) to exit the operating menu.

Minimum Load
The minimum load required for initialization of the weighing platform is configured in the operating menu under:
APPL ⁂ mn: 3.6.
Once the limit is exceeded by the load, initialization can begin. If the load is too light, the following will occur when you try to save a value:

- The error code INF 29 is displayed
- The weighing platform is not initialized
- The preset calculation factor is saved

The minimum load required for automatic taring of the container weight on the platform ("autotare first weight") is configured in the operating menu under:
APPL ⁂ mn: 3.5.

You can choose from 10 settings, ranging from

1 digit
to
1000 digits

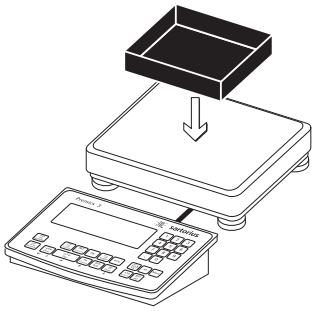
Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Resolution for Calculation of Reference Value
The resolution applied for calculating the reference value is defined in the operating menu under:
APPL ⁂ mn: 3.9.
The resolution for calculating the reference sample is increased if "+1 decimal place", "+2 decimal places" or "With internal resolution" is selected. With the "+1 decimal place" setting, the net value is determined to one additional decimal place (i.e., display accuracy × 10); "+2 decimal places" increases display accuracy × 100, and so on up to the maximum resolution available.

Parameter for Saving Weight Values
The reference weight is saved when the platform has stabilized. "Stability" is defined as the point at which fluctuation of a measured value lies within a defined tolerance range. The narrower the tolerance range, the more stable the platform is at stability. In the operating menu, under:
APPL ⁂ mn: 3.11.
you can define whether the value is saved when "standard stability" is reached, or only at "increased stability" (narrower tolerance range). If you select "At increased stability," the reference weight saved will be more accurate and the results more reproducible, but the response time of the weighing instrument might be longer.

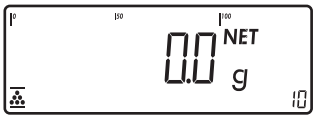
Decimal Places for Display of Results
In neutral measurement, not only whole numbers but also decimal numbers (for example, 1.25 ◘ electrical cabling) can be displayed.
The number of decimal places displayed in neutral measurement is configured in the operating menu under:
APPL ⁂ mn: 3.10.

Example:
Measuring 25 m electrical cable.
Settings (changes in the factory settings required for this example):
Setup: Application: Neutral Measurement
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)



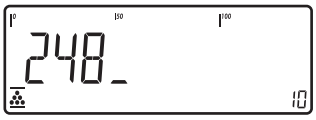
1. Place empty container on the platform

[→T←]



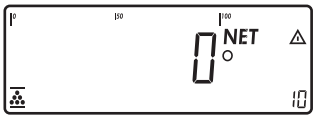
2. Tare the scale
   Note: If the automatic tare function is enabled, you do not need to press the [→T←] key to tare the scale; the tare weight is saved automatically when you place the container on the platform

[2] [4] [8]

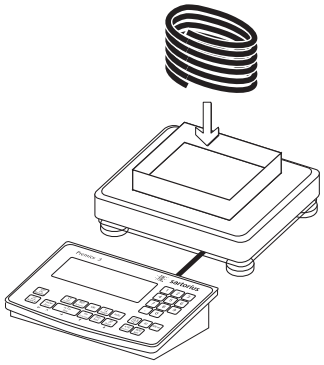


3. Enter the weight of 1 meter of cable using the keypad (in this example, 248 g)

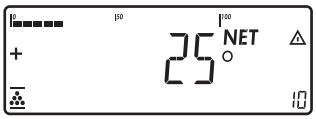
[OK]



4. Save value entered as reference weight.



5. Place the desired amount of cable in the container



Read the result

[⎙]

6. Print the result

```
nRef   +        1 o
wRef   +    0.248 kg

G#     +    6.794 kg
T      +    0.541 kg
N      +    6.253 kg

Qnt             25 o
--------------------
```

Configured printout:
see page 65

Application: Averaging (Animal Weighing)

With the Averaging application, you can use your weighing platform for calculating weights as the average of a number of individual weighing operations.
This function is used to determine weights under unstable ambient conditions or for weighing unstable samples (such as live animals).

Features

- Averaging starts manually or automatically. Configuration:
  APPL: 3.18.
  With manual start selected, the averaging routine begins when you press a key (provided the start conditions are met. With automatic start selected, averaging begins when you place the first load on the platform (provided the start conditions are met).

- Enter the number of subweighing operations using the keypad

- Press the REF key to select the desired number of subweighing operations

- Activate info mode by pressing Info

- Toggle the display between last result and current weight by pressing ⇆

- Automatic printout of results. Configuration:
  APPL: 3.20.

- Automatic taring of container weight. Configuration:
  APPL: 3.7.

- Automatic start of averaging when the Midrics is turned on and a sample placed on the platform (provided start conditions are met). Configuration:
  APPL: 3.8.

- Closing application program; deleting parameters:
  The value for reference sample weight remains active in the reference memory until you delete it by pressing the CF key, overwrite it or until you select a different application.

- Restore factory settings. Configuration:
  APPL: 9.1.

A number of measurements are required, as this forms the basis for calculation of an average weight. You can enter the desired number of measurements, also referred to as subweighing operations, using the keypad.

The number you enter is saved until it is overwritten by another number. It also remains in memory when you switch to a different application program, or switch off the scale.

There are three ways to start the averaging routine:

- Manual start with preset number of measurements:
  Place the sample on the platform and press the OK key

- Manual start with user-defined number of measurements:
  Place the sample on the platform and enter the number of weighing operations using the keypad.
  Press the REF key to save the number entered and begin weighing

- Automatic start with preset number of measurements:
  Measurement begins when you place the first sample on the platform, provided the start conditions are met.

- Tare function:
  1) If you store a tare (weight value) by pressing the →T← key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1
  (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting:
  APPL: 3.25.

Preparation

- Switch on the scale: Press I/⏻.
- While all segments are lit, press the →T← key
- Select the Application menu: Press Fn repeatedly until APPL is displayed
- Open the Application menu: Press the →T← key
- Select the Animal Weighing application: Press the Fn key repeatedly until the desired menu item is displayed and press →T← to open the submenu

Application Parameters: Averaging (Animal Weighing)

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for automatic start
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6. 9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.18. Start of averaging routine
  - 3.18.1* Manual
  - 3.18.2 Automatic
- 3.19. Animal activity
  - 3.19.1 0.1% of the animal/object
  - 3.19.2* 0.2% of the animal/object
  - 3.19.3 0.5% of the animal/object
  - 3.19.4 1% of the animal/object
  - 3.19.5 2% of the animal/object
  - 3.19.6 5% of the animal/object
  - 3.19.7 10% of the animal/object
  - 3.19.8 20% of the animal/object
  - 3.19.9 50% of the animal/object
  - 3.19.10 100% of the animal/object
- 3.20. Automatic printout of results
  - 3.20.1* Off
  - 3.20.2 On
- 3.21. Static display of result after load removed
  - 3.21. 1* Display is static until unload threshold reached
  - 3.21. 2 Display is static until CF is pressed
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten

* = Factory setting

- Press →T← to save your settings and →T← (repeatedly) to exit the operating menu.

Minimum Load
The minimum load required for initialization of the averaging routine is configured in the operating menu under:
APPL: 3.6.
Setting a minimum load for averaging can be especially useful if you configure automatic start of measurement.

The minimum load required for automatic taring of the container weight on the platform ("autotare first weight"), or for automatic printout of results, is configured in the operating menu under:
APPL: 3.5.

You can choose from the following 10 levels for this setting:

1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

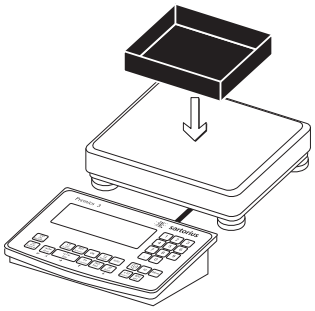
Starting the Measurements
The averaging routine does not begin until any fluctuation in the weight value remains below a defined threshold over three consecutive measurements. The tolerance limit is defined as a percentage of the animal or object weight (for example, 0.1%; 0.2%; ...; 50%; 100%), configured in the operating menu under:
APPL: 3.19.
If the "Animal activity" parameter is set to 2%, for example, and the animal or object weighs 10 kg, measurement does not begin until the fluctuation in weight value remains below 200 g during three consecutive measurements.

Display
A calculated average value is shown continuously on the main display. The ⚠ symbol (indicating a calculated value) is also displayed.

You can toggle between this display and a readout of the current weight on the scale by pressing the ⇆ key.

In the operating menu, under:
APPL: 3.21.
you can select "Display is static until unload threshold reached" to have the display switch automatically to the weight readout when you unload the weighing platform (i.e., when the load is less than half the minimum load). The result of the most recent averaging operation is not saved.
If you select "Display is static until CF is pressed," the calculated average remains displayed even after the weighing platform is unloaded, until you press the CF key or begin a new measurement.

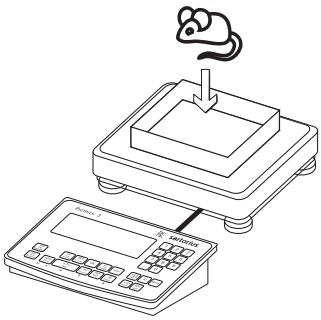
Example:
Measuring the weight of one mouse.
Settings (changes in the factory settings required for this example):
Setup: Application: Animal weighing
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)



Place empty container on the platform

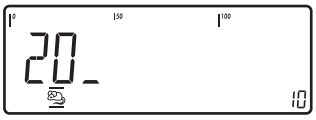
→T←

1. Tare the scale.
   Note: If the automatic tare function is enabled, you do not need to press the →T← key to tare the scale; the tare weight is saved automatically when you place the container on the platform.



2. Place 1st animal in container

2 0



3. Enter the number of subweighing operations using the keypad (in this example, 20 measurements)

REF

4. Save the value entered and begin averaging

The averaging routine does not begin until the fluctuation in weight value remains below a defined threshold over three consecutive measurements. The number of subweighing operations remaining is shown in the numeric display.

Read the result of averaging

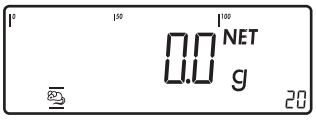
(E)

5. Print the results.
   Note: If automatic printout of results is enabled, you do not need to press the (E) key; the results are printed automatically.

```
mDef   +        20

T      +     0.292 kg
x-Net  +     0.183 kg
--------------------
```

Configured printout:
see page 65



When you unload the weighing platform, the display switches to the weight readout automatically, unless configured otherwise in the operating menu. The weighing instrument is ready for the next measurement.

Application: Weighing in Percent %

With the Weighing in Percent application, you can have the value of the weight on the platform displayed as a percentage calculated in relation to a defined reference weight.
The **%** symbol is displayed in place of the weight unit.

Features

- Enter the reference weight "Wxx%" for 100% using the keypad
- Save the current weight value as reference percentage ("pRef")
- Enter the reference percentage "pRef" via the keypad
- Display result as loss (difference) or residue
- Display up to 3 decimal places. Configuration: APPL **%**: 3.10.
- Activate info-mode by pressing Info
- Toggle the display between percentage and weight by pressing the ⇆ key.
- Automatic taring of container weight. Configuration: APPL **%**: 3.7.
- Automatic initialization when the Midrics is switched on. The application is initialized with the most recently saved data. Configuration: APPL **%**: 3.8.
- Closing application program; deleting parameters:
  The value for reference sample weight remains active in the reference memory until you delete it by pressing the CF key, overwrite it or until you select a different application.
- Restore factory settings. Configuration: APPL **%**: 9.1.

To determine the weight of a sample relative to a reference weight, you need to define the reference weight value. There are three ways to enter this value in the application program:

- Calculation:
  - Place the reference quantity (defined by the reference percentage) on the connected weighing platform and press OK.
  - Place any amount of the sample material on the connected weighing platform, enter the reference percentage through the keypad, and press the REF key to initialize the application.

  How the reference weight is calculated depends on the application setting for resolution ("Resolution for calculation of reference value"). The value is either rounded off in accordance with the display resolution, or saved with 10-fold or 100-fold increased resolution or with the maximum internal resolution of the weighing platform.
- Enter the reference weight for 100% via the keypad and press the OK key to initialize the application.

  The initial application values are valid until deleted by pressing the CF key or until overwritten by new values. They also remain saved after you switch off the scale.
- Tare function:
  1) If you store a tare (weight value) by pressing the →T← key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1
  (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting:
  APPL **%**: 3.25.

Preparation

- Switch on the scale: Press I/⏻
- While all segments are lit, press the →T← key
- Select the Application menu: Press Fn repeatedly until APPL is displayed
- Open the Application menu: Press the →T← key
- Select the Weighing in Percent application:
  Press the Fn key repeatedly until the desired menu item is displayed and press →T← to open the submenu

Application Parameters: Weighing in Percent

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for initialization
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.9. Resolution for calculation of reference value
  - 3.9.1* Display resolution
  - 3.9.2 Display resolution +1 decimal place
  - 3.9.3 Display resolution +2 decimal places
  - 3.9.4 Internal resolution
- 3.10. Decimal places in displayed result
  - 3.10.1* None
  - 3.10.2 1 decimal place
  - 3.10.3 2 decimal places
  - 3.10.4 3 decimal places
- 3.11 Parameter for saving weight values
  - 3.11.1* At stability
  - 3.11.2 At increased stability
- 3.15. Display of calculated value
  - 3.15.1* Residue
  - 3.15.2 Loss
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten

* = Factory setting

- Press →T← to save your settings and →T← (repeatedly) to exit the operating menu.

Minimum Load
The minimum load required for initialization of the weighing platform is configured in the operating menu under:
APPL **%**: 3.6.

Once the limit is exceeded by the load, initialization can begin. If the load is too light, the following will occur when you try to save a value:

- The error code INF 29 is displayed
- The weighing platform is not initialized
- The preset reference percentage is saved

The minimum load required for automatic taring of the container weight on the platform ("autotare first weight") is configured in the operating menu under:
APPL **%**: 3.5.

You can choose from 10 settings, ranging from

1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Resolution for Calculation of Reference Value
The resolution applied for calculating the reference value is defined in the operating menu under:
APPL **%**: 3.9.
The resolution for calculating the reference sample weight is increased if "+1 decimal place", "+2 decimal places" or "With internal resolution" is selected. With the "+1 decimal place" setting, the net value is determined to one additional decimal place (i.e., display accuracy × 10); "+2 decimal places" increases display accuracy × 100, and so on up to the maximum resolution available.

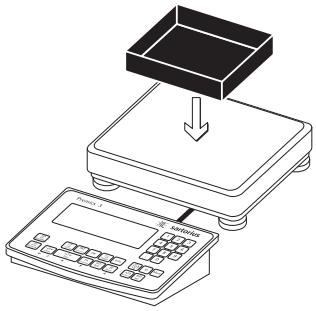
Parameter for Saving Weight Values
The reference weight is saved when the platform has stabilized. "Stability" is defined as the point at which fluctuation of a measured value lies within a defined tolerance range. The narrower the tolerance range, the more stable the platform is at stability.
In the operating menu, under:
APPL **%**: 3.11.
you can define whether the value is saved when "standard stability" is reached, or only at "increased stability" (narrower tolerance range.) If you select "At increased stability," the reference weight saved will be more accurate and the results more reproducible, but the response time of the weighing instrument might be longer.

Display of Results
With the Weighing in Percent application, the result can be displayed as the residue or the loss. Configuration:
APPL **%**: 3.15.

Equations:
Residue= (current weight – 100% weight) / * 100

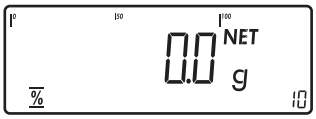
Loss= (current weight – 100% weight) / 100% weight * 100

Example:
Weighing in 100% of a sample material.
Settings (changes in the factory settings required for this example):
Setup: Application: Weighing in percent
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)

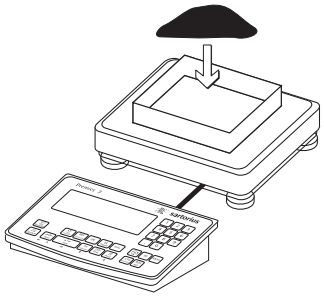


1. Place empty container on the platform

→T←

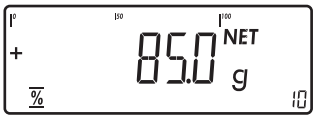


2. Tare the scale
   Note: If the automatic tare function is enabled, you do not need to press the →T← key to tare the scale; the tare weight is saved automatically when you place the container on the platform

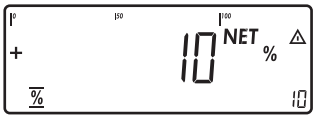


3. Add reference material in accordance with reference percentage
   (in this example, 85 g, = 10%)

OK

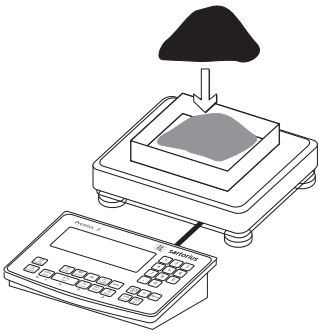


4. Activate calculation of the reference weight.
   The calculation is based on the active net weight value and the reference percentage entered.

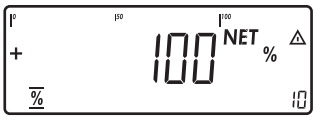


If the weight is too light, the error code *INF 29* is shown on the main display.

Reduce the minimum load setting.



5. Continuing filling the container until the target amount is reached
   (in this example, 100%)



6. Print the result

Configured printout:
see page 65

```
pRef   +      20 %
wRef   +   0.085 kg

G#     +   1.080 kg
T      +   0.675 kg
N      +   0.423 kg

Prc    +     100 %
------------------
```

Application: Checkweighing +/–

With the Checkweighing application, you can check whether the sample on the weighing platform matches a target value, or lies within a given tolerance range. Checkweighing also makes it easy to fill sample materials to specified target weight.

Features

- Enter the nominal or target weight (setpoint) and the tolerance range delimiters either using the keypad or by saving the weight value from a load on the platform.
- Enter the tolerance limits as absolute values (Min and Max) or as percentages of the target. Configuration: APPL +/–: 4.5.
- The target value can be taken over as a weighed value from a weighing platform, and the tolerance limits are defined by the percentage of deviation from the target value (menu code 4.5.2). The following percentages can be selected as the deviation: 0.1%, 0.2%, 0.5%, 1%, 1.5%, 2%, 3%, 5% or 10%.
- The target value, lower tolerance limit (minimum) and upper tolerance limit (maximum) can be taken over as weighed values from the weighing platform.
- Target and tolerance limits checked during input; values must conform to: Upper limit ≥ Target ≥ Lower limit ≥ 1 digit.
- Checkweighing range: either 30% to 170% of the target, or from 10% to infinity.
- Results are shown on the main display and the bar graph and sent to control output ports for further processing.
- Toggle the main display between weight and tolerances limits by pressing [⇆]. If the weight on the readout is outside the tolerance range, "LL" (too low) or "HH" (too high) is displayed.
- Activate info mode by pressing [Info]
- Automatic printout of results. Configuration: APPL +/–: 4.6.
- Automatic taring of container weight. Configuration: APPL +/–: 3.7.
- Automatic initialization with the most recently saved application data when you switch on the Midrics. Configuration: APPL +/–: 3.8.
- Closing application program; deleting parameters: The value for reference sample weight remains active in the reference memory until you delete it by pressing the [CF] key, overwrite it or until you select a different application.
- Restore factory default settings. Configuration: APPL +/–: 9.1.

Checkweighing entails comparing the current weight value to a defined target. You can enter the value for this target using the keypad, or by saving the weight value displayed.
You can also define upper and lower tolerance limits based on this target. You can do this by:

- Entering absolute values using the keypad or placing the desired amount of weight on the platform and saving the value, or
- Entering each value as a percentage of the target weight

The initial application values are valid until deleted by pressing the [CF] key or until overwritten by new values. They also remain saved after you switch off the scale.

- Tare function:
  1) If you store a tare (weight value) by pressing the [→T←] key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1 (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting: APPL +/–: 3.25.

Preparation

- Switch on the scale: Press [I/⏻]
- While all segments are lit, press the [→T←] key
- Select the Application menu: Press [Fn] repeatedly until APPL is displayed
- Open the Application menu: Press the [→T←] key
- Select the Checkweighing application: Press the [Fn] key repeatedly until the desired menu item is displayed and press [→T←] to open the submenu

Application Parameters: Checkweighing

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7. 1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten
- 4.2. Checkweighing range
  - 4.2.1* 30% to 170%
  - 4.2.2 10% to infinity
- 4.3. Activate control line for "Set" as:
  - 4.3.1* "Set" output
  - 4.3.2 Ready to operate
- 4.4. Activation of outputs
  - 4.4.1 Off
  - 4.4.2 Always active
  - 4.4.3 Active at stability
  - 4.4.4* Active within check range
  - 4.4.5 Active at stability within the check range
- 4.5. Parameter input
  - 4.5.1* Min, max, target
  - 4.5.2 Only target with percent limits
- 4.6. Automatic printing
  - 4.6.1* Off
  - 4.6.2 On
  - 4.6.3 Only values within tolerance
  - 4.6.4 Only values outside tolerance
- 4.7. Checkweighing toward zero
  - 4.7.1* Off
  - 4.7.2 On

* = Factory setting

- Press [→T←] to save your settings and [→0←] (repeatedly) to exit the operating menu.

Minimum Load
The minimum load required for automatic taring of the container weight on the platform (first weight), or for automatic printout of results, is configured in the operating menu under:
APPL +/-: 3.5.

You can choose from 10 settings, ranging from

1 digit (no minimum load)
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Display
The result of a measurement is shown either as a weight value or in relation to the target.

- Weight display mode:
  The measured value line always shows the weight value, even if it lies outside the tolerance range.

  The bar graph is displayed with symbols indicating lower limit, target and upper limit. The bar shows a logarithmic display of the current load if the weight is anywhere from 0 to the minimum load, and a linear display for weights beyond that range.

- Tolerance limit display mode:
  As "Weight display" above, with the exception that:
  - LL is shown on the main display if the weight value is lower than the target, and
  - HH is shown on the main display if the weight value is higher than the target

Digital Input/Output Interface + Optional I/O
The Checkweighing application supports the digital input/output interface. The 4 control outputs are activated as follows (see also the diagram on the right):
- Lighter
- Equal
- Heavier
- Set

or with YDO01M-I0
Configuration in the operating menu:

CTR OUT
8.24

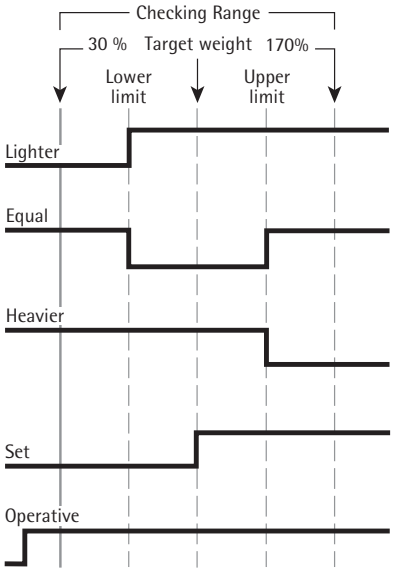
8.24.1	Weighing instrument ready to operate
8.24.2	Weighing instrument stable
8.24.3	Weighing instrument overflow ("H")
8.24.4	Weighing instrument underflow ("L")
8.24.5	Value in tare memory
8.24.6	Below minimum sample quantity
8.24.7	Above minimum sample quantity
8.24.8	Lighter
8.24.9	Equal
8.24.10	Heavier
8.24.11	Set

Under:
APPL +/-: 4.4.
you can define whether these control ports are
- off,
- always on,
- active at stability,
- active within the checking range, or
- active at stability within the checking range

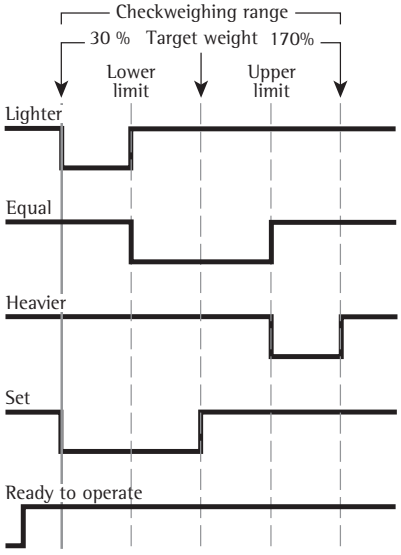
The "SET" output normally changes its voltage level when the load is near the target weight. Alternatively, you can assign the "Operative" function (indicating "Ready-for-use") to this port. Configuration:
APPL +/-: Section 4.3.

For example, you can use this function to show the weighed or measured result on a simple external indicator.

All data output ports have a high voltage level when:
- the application has not been initialized,
- the weighing instrument is not at stability and one of the "at stability ..." parameters is selected
- The weight is not within the checkweighing range
- Activation of port lines: always on



Digital Input/Output Interface
- <SET> control output: set

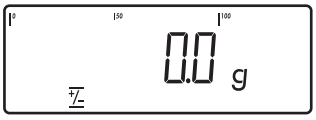


Digital Input/Output Interface
- <SET> control output: set
- Activation of port lines: within checkweighing range

Output Port Specifications
- When not in use, the voltage level is high: >3.7 V/+4 mA
- When activated, the voltage level is low: <0.4 V/–4 mA

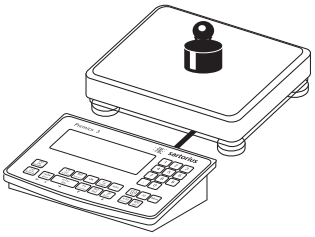
⚠ The data outputs are not protected from short circuits.

Example: 1
Checkweighing samples with a target weight of 1250 g and a tolerance range from –10 g to +30 g
Settings (changes in the factory settings required for this example):
Setup: Application: Checkweighing
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)



OK

1. Enter the initial target and tolerance limit values



2. Place a sample equal to the target weight (in this example, 1250 g) on the platform

OK

3. Save target value

1 2 4 0

4. Enter value for lower limit (in this example, 1240 g)

OK

5. Save value for the lower limit

1 2 8 0

6. Enter value for the upper limit (in this example, 1280 g)

OK

Save value for upper limit

7. Weigh samples

8. Print the results
Note: If automatic printout of results is enabled, you do not need to press the key; the results are printed automatically.

```
Setp   +    1.250 kg    Target
Min    +    1.240 kg    Minimum
Max    +    1.280 kg    Maximum

G#     +    1.256 kg    Gross weight
T      +    0.000 kg    Tare weight
N      +    1.256 kg    Net weight

Lim    +     0.48 %     Percentage of deviation
                        from target*
W.Diff+    0.006 kg    Absolute deviation from target
--------------------
```

* Only in “Tolerance limits” display mode:
If the weight is lighter than the target, the display shows: LL

If the weight is heavier than the target, the display shows: HH

Application: Classification

With the Classification application, you can determine whether the weight of a given sample lies within the limits of a defined weight class.

Features

– Classification with 3 or 5 weight classes. Configure in Setup under: APPL ΔΔ: 4.8.

– Enter the upper class limits using the keypad or by saving weight values from a load on the platform

– Enter the upper limits of weight classes as absolute values or as a percentage of deviation from the upper limit of Class. Configuration: APPL ΔΔ: 4.9.

– Activate info mode by pressing Info

– Toggle the main display between classes and weight values by pressing ⇆.

– Automatic printout of results. Configuration: APPL ΔΔ: 4.10.

– Automatic taring of container weight. Configuration: APPL ΔΔ: 3.7.

– Automatic initialization with the most recently saved application data when you switch on the Midrics. Configuration: APPL ΔΔ: 3.8.

– Closing application program; deleting parameters: The value for reference sample weight remains active in the reference memory until you delete it by pressing the CF key, overwrite it or until you select a different application.

– Restore factory default settings. Configuration: APPL ΔΔ: 9.1.

The lower limit of Class 1 is defined by the preset minimum load. The other classes are configured by defining their upper limits. There are two ways to enter the delimiters for classes 1 through 3 (or 5):

– By saving the weight value displayed: Each upper value, with the exception of the highest, is entered using the keypad or by saving the weight value of a load on the weighing platform.

– By entering a percentage: The upper value of Class 1 is entered using the keypad or by saving the value indicated. Upper limits for the other classes are defined by entering a percentage of deviation from the upper limit of Class 1, using the keypad. Example: Enter 100 g as the upper limit of Class 1. Then enter 15%. When working with 3 classes, this yields the following weight classes: Class 0: up to the minimum load Class 1: > minimum load, up to 100 g Class 2: >100 g to 115 g Class 3: > 115 g, up to maximum load When working with 5 classes, this yields the following weight classes: Class 0: up to the minimum load Class 1: > minimum load, up to 100 g Class 2: >100 g to 115 g Class 3: >115 g to 130 g Class 4: >130 g to 145 g Class 5: > 145 g, up to maximum load

The initial application values are valid until deleted by pressing the CF key or until overwritten by new values. They also remain saved after you switch off the scale.

– Tare function: 1) If you store a tare (weight value) by pressing the →T← key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value. Setting: menu code 3.25.1 (factory default) 2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value. Setting: menu code 3.25.2 Operating menu setting: APPL ΔΔ: 3.25.

Preparation

- Switch on the scale: Press I/⏻
- While all segments are lit, press the →T← key
- Select the Application menu: Press Fn repeatedly until APPL is displayed
- Open the Application menu: Press the →T← key
- Select the Classification application: Press the Fn key repeatedly until the desired menu item is displayed and press →T← to open the submenu

Application Parameters: Classification

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for initialization and defining the class 1 lower limit
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten
- 4.3. Activate control line for “Set” as:
  - 4.3.1* “Set” output
  - 4.3.2 Ready to operate (for process control systems)
- 4.7. Activation of outputs
  - 4.7.1 Off
  - 4.7.2 Always active
  - 4.7.3* Active at stability
- 4.8. Number of classes
  - 4.8.1* 3 classes
  - 4.8.2 5 classes
- 4.9. Parameter input
  - 4.9.1* Weight values
  - 4.9.2 Percentage
- 4.10. Automatic printing
  - 4.10.1* Off
  - 4.10.2 On

* = Factory setting

- Press →T← to save your settings and →T← (repeatedly) to exit the operating menu.

Minimum Load
The minimum load for the first class is configured in the operating menu, under:
APPL ΔΔ: 3.6.
Once the limit is exceeded by the load, initialization can begin.
Once the application is initialized, a weight value below the minimum load is designated Class 0; no class is displayed.

The minimum load required for automatic taring of the container weight on the platform (first weight), or for automatic printout of results, is configured in the operating menu under:
APPL ΔΔ: 3.5.

You can choose from 10 settings, ranging from

1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Display
The result of a given measurement is shown as either a weight value or the class number.

- Weight display
  The current weight is shown in the measured value line and the current class in the text line.

- Display of classes
  The current class is shown in the measured value line, and the current weight in the text line.

Digital Input/Output Interface (CTTL Signal)
The Classification application supports the digital input/output interface.
The 4 control outputs are activated as follows (see also the diagram on the right):

- With 3 classes:
  - Class 1
  - Class 2
  - Class 3
  - Set

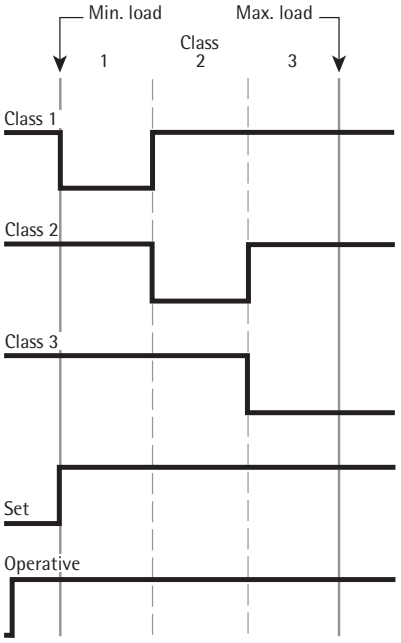
- With 5 classes:
  - Classes 1/2
  - Classes 2/3/4
  - Classes 4/5
  - Set

  Under:
  APPL ΔΔ: 4.7.
  you can define whether these control ports are
- off,
- always on,
- activated at stability,

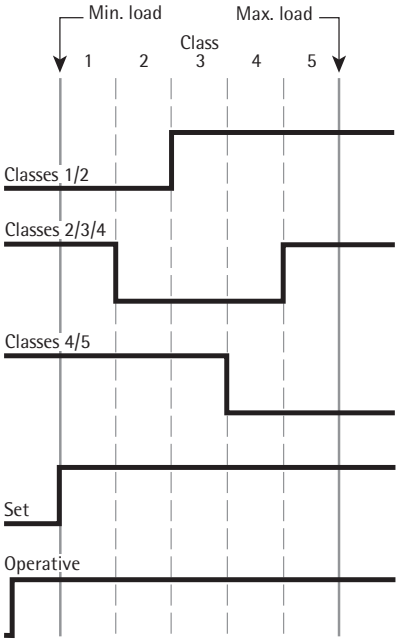
  The "SET" output normally changes its voltage level when the current weight exceeds the minimum load. Alternatively, you can assign the "Operative" function (indicating "Ready-for-use") to this port. Configuration:
  APPL ΔΔ: 4.3.
  or with YDO01M-10

  Configuration in the operating menu:

CTR OUT
8.24
- 8.24.1 Weighing instrument ready to operate
- 8.24.2 Weighing instrument stable
- 8.24.3 Weighing instrument overflow ("H")
- 8.24.4 Weighing instrument underflow ("L")
- 8.24.5 Value in tare memory
- 8.24.6 Below minimum sample quantity
- 8.24.7 Above minimum sample quantity
- 8.24.8 Lighter
- 8.24.9 Equal
- 8.24.10 Heavier
- 8.24.11 Set

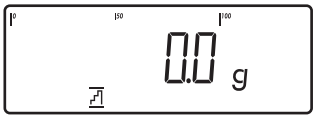


Digital Input/Output Interface
Control lines when working with 3 classes

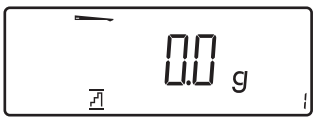


Digital Input/Output Interface
Control lines when working with 5 classes

Example:
Defining three classes.
Settings (changes in the factory settings required for this example):
Setup: Application: Classification
Setup: PRTPROT (printout): 7.7.x (COM1); printout for app; then select desired line items (see “Configuration” for options)



OK



1. Begin input of class delimiters

1 1 0

2. Enter the upper limit for Class 1 via the keypad (in this example, 110 g)

OK

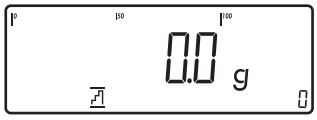
3. Save the upper limit for Class 1

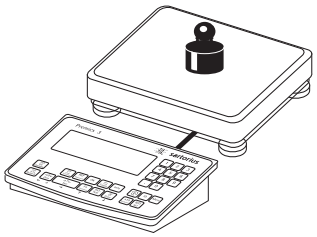
1 3 0

4. Enter the upper limit for Class 2 via the keypad (in this example: 130 g)

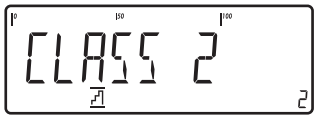
OK

5. Save the upper limit for Class 2





6. Place the sample on the weighing platform



Read the result

7. Print the result
Note: If automatic printout of results is enabled, you do not need to press the key; the results are printed automatically.

```
Lim1   +    0.110 kg
Lim2   +    0.130 kg

G#     +    0.118 kg
T      +    0.000 kg
N      +    0.118 g

Class            2
--------------------
```

Configured printout:
see page 65

Application: Totalizing Σ

With the Totalizing application, you can add weight values together in the totalizing memory. In addition to weight values, the number of individual values added to memory is also saved (transaction counter).

Features

- Totalize up to 999 individual weights

Save values automatically:

- Save both net values and calculated values (if available). Configuration: APPL Σ: 3.16.

- Save weight values and calculated values from Counting, Weighing in Percent or Checkweighing. Configuration: APPL Σ: 3.22.

- Current transaction number displayed in the text line (indicating the items already added)

- Weighing in up to a defined target, with the totalization memory content + current weight displayed in the text line.

- Save weight values manually or automatically

- Activate info-mode by pressing Info

- Automatic printout when value saved

- Automatic taring of container weight. Configuration: APPL Σ: 3.7.

- Content of totalizing memory stored in battery-backed (non-volatile) memory when the Midrics 2 is switched off.

- Closing application program; deleting parameters:
  The value for reference sample weight remains active in the reference memory until you delete it by pressing the CF key, overwrite it or until you select a different application.

- Restore factory settings: APPL Σ: 9.1.

The Midrics has a totalizing memory for adding individual net and gross values. You can save weight values in totalizing memory manually or automatically. Configuration: APPL Σ: 3.16.

- Add a weight value manually by pressing OK
  The net value from the active platform is added to the value already saved in totalization memory and the transaction counter value is increased by one. When a value is added manually, the program does not check whether the platform has been unloaded since the last time the OK key was pressed.

- Value saved automatically when the weighing platform is stable and the defined minimum load is exceeded. If the defined minimum load is not exceeded, you can save the item manually by pressing the OK key. The scale must be unloaded before the sample is placed on the platform. The weighing platform is considered to be unloaded when the load is less than 50% of the minimum load.

  The number of items added to memory is displayed in the text line.

  Press the CF key to clear the totalizing memory. A printout is generated automatically.

- Tare function:
  1) If you store a tare (weight value) by pressing the →T← key, you can later enter a tare value manually. The tare value you enter is added to the stored tare value.
  Setting: menu code 3.25.1
  (factory default)
  2) A tare value entered manually overwrites a stored tare value (weight value). If you enter a tare value manually, a tare value (weights value) stored later overwrites the manually entered value.
  Setting: menu code 3.25.2
  Operating menu setting:
  APPL Σ: 3.25.

Preparation

- Switch on the scale: Press I/⏻
- While all segments are lit, press the →T← key
- Select the Application menu: Press Fn repeatedly until APPL is displayed
- Open the Application menu: Press the →T← key
- Select the Totalizing application: Press the Fn key repeatedly until the desired menu item is displayed and press →T← to open the submenu

Application Parameters: Totalizing

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for automatically saving/transferring values
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.8. Start application and load most recent application data when the Midrics is switched on
  - 3.8.1 Automatic (on)
  - 3.8.2* Manual (off)
- 3.16. Values saved automatically
  - 3.16.1* Off
  - 3.16.2 On
- 3.17. Automatic individual or component printout when value stored
  - 3.17.1 Off
  - 3.17.2* Generate printout with complete standard configuration each time [OK] is pressed
  - 3.17.3 Generate printout with complete standard configuration only the first time [OK] is pressed
- 3.22. Source of data for values stored automatically
  - 3.22.1* Application 1
  - 3.22.2 Application 2
- 3.23. Value(s) to be saved
  - 3.23.1* Net
  - 3.23.2 Calculated
  - 3.23.3 Net and calculated
- 3.25. Tare function
  - 3.25.1* Add input value (weight value) for taring
  - 3.25.2 Tare value can be overwritten

* = Factory setting

- Press [→T←] to save your settings and [→T←] (repeatedly) to exit the operating menu.

Minimum Load
The minimum load required for automatic taring of the container weight on the platform (“autotare first weight”) is configured in the operating menu under:
APPL **Σ**: 3.5.

The minimum amount that a component must weigh before it can be saved in totalizing memory is configured in the operating menu under:
APPL **Σ**: 3.6.

You can choose from 10 settings, ranging from

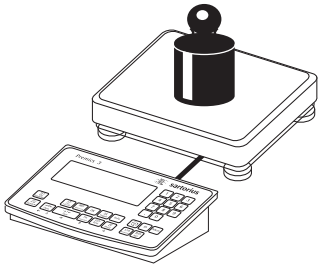
1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

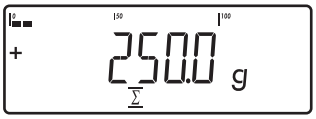
Data Record or Printout
In the operating menu, under:
APPL **Σ**: 3.17.
you can configure whether a printout is generated manually, by pressing [⎙], or automatically when a weight value is saved in the totalizing memory.
If you select 3.17.1 for this setting, printouts can be generated only manually, by pressing [⎙] (individual printout).
If you select 3.17.2 (printout of a component on request), the component printout is generated.

The total data record is printed when you clear the totalizing memory (by pressing the [CF] key).

Example:
Totalizing weight values.
Settings (changes in the factory settings required for this example):
Setup: Application: Totalizing
Setup: PRTPROT: 7.7.x (COM1 interface)
then select the desired line items
Setup: PRTPROT: 7.9.x (“Print when CF pressed”)
then select the desired line items



1. Place the first weight on the weighing platform



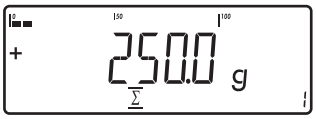
Weight value is displayed

OK

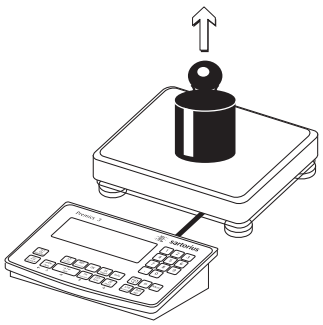
2. Save the first weight value in totalizing memory

```
G#      +    0.250 kg
T       +    0.000 kg
N       +    0.250 kg
n                 1
```

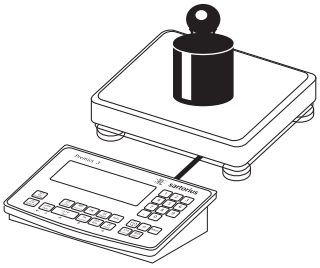
The component data is printed automatically (configured printout)



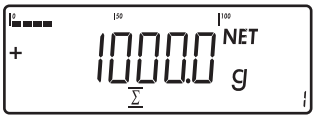
The transaction counter value is increased by 1.



3. Remove the first weight from the weighing platform



4. Place the weight on the weighing platform



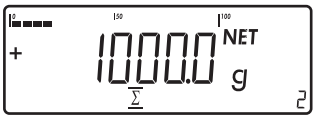
Weight value is displayed

OK

5. Save the second weight value in totalizing memory

```
G#      +    1.346 kg
T       +    0.346 kg
N       +    1.000 kg
n                 2
```

The component data is printed automatically (configured printout)



The transaction counter value is increased by one, and now shows “2”

6. Toggle the display between individual and total value

CF

7. End totalizing

```
*G      +    1.346 g
*N      +    1.250 g
n                 2
------------------
```

The total data record is printed as configured.

Application: Net-total Formulation

With the Net-total Formulation application, you can weigh in different components up to a defined total. Each component is saved in a net-total memory.

Features

- Weigh in up to 999 components in series
- Net-total formulation cannot be combined with other applications
- Current component number displayed in the text line (indicating the component to be added)
- Toggle the display between "component mode" and "additive mode" by pressing [⇆].
  - Component mode: Display the weight of the component currently on the platform (for 1 second after it is saved; then the platform is tared)
  - Additive mode: Display the weight of all components on the platform (after it is saved, the net weight of the last component added is displayed briefly)
- Activate info-mode by pressing [Info]
- Automatic printout each of component as it is saved. Configuration: APPL ⬇: 3.17.

  If menu item 3.17.2 is set, the entire component printout is generated every time a component is saved. If menu item 3.17.3 is set, the full printout is generated only once, for the first component: Blank line, date, time, ID1 through ID4, header lines 1 and 2. For subsequent components, each "component" item ("Comp xx") is followed by a blank line.
- Automatic taring of container weight. Configuration: APPL ⬇: 3.7.
- Restore factory default settings. Configuration: APPL ⬇: 9.1.

Preparation

- Switch on the scale: Press [I/⏻]
- While all segments are lit, press the [→T←] key
- Select the Application menu: Press [Fn] repeatedly until APPL is displayed
- Open the Application menu: Press the [→T←] key
- Select the Net-total Formulation application: Press the [Fn] key repeatedly until the desired menu item is displayed and press [→T←] to open the submenu

Application Parameters:
Net-Total Formulation

- 3.5. Minimum load for automatic taring and automatic printing
  - 3.5.1* 1 digit
  - 3.5.2 2 digits
  - 3.5.3 5 digits
  - 3.5.4 10 digits
  - 3.5.5 20 digits
  - 3.5.6 50 digits
  - 3.5.7 100 digits
  - 3.5.8 200 digits
  - 3.5.9 500 digits
  - 3.5.10 1000 digits
- 3.6. Minimum load for automatically saving/transferring values
  - 3.6.1* 1 digit
  - 3.6.2 2 digits
  - 3.6.3 5 digits
  - 3.6.4 10 digits
  - 3.6.5 20 digits
  - 3.6.6 50 digits
  - 3.6.7 100 digits
  - 3.6.8 200 digits
  - 3.6.9 500 digits
  - 3.6.10 1000 digits
- 3.7. Automatic taring: first weight tared
  - 3.7.1* Off
  - 3.7.2 On
- 3.17. Automatic individual or component printout when value stored
  - 3.17.1 Off
  - 3.17.2* Generate printout with complete standard configuration each time [OK] is pressed
  - 3.17.3 Generate printout with complete standard configuration only the first time [OK] is pressed

* = Factory setting

- Press [→T←] to save your settings and [→0←] (repeatedly) to exit the operating menu.

Minimum Load

The minimum amount that a component must weigh before it can be saved in net-total memory is configured in the operating menu under: APPL ⬇: 3.6.

Once the limit is exceeded by the load, the value can be saved. If the load is too light, the following will occur when you try to save a value:

- The error code INF 29 is displayed
- The weighing platform is not initialized

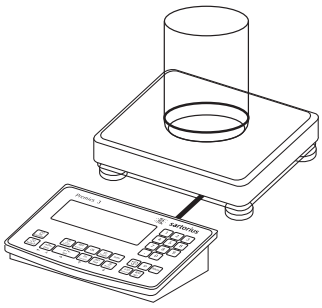
The minimum load required for automatic taring of the container weight on the platform ("autotare first weight") is configured in the operating menu under: APPL ⬇: 3.5.

You can choose from 10 settings, ranging from

1 digit
to
1000 digits

Example: If the scale interval (d) is 1000 g and the minimum load is set to 1000 digits (=1000 scale intervals), a load of at least 1000 g is required for autotaring.

Example:
Weighing in 3 components of a formulation recipe.
Settings (changes in the factory settings required for this example):
Setup: Application: Net-total Formulation
Setup: PRTPROT: 7.7.x (COM1 interface) “Printout when value is saved”;
then select the desired line items
Setup: PRTPROT: 7.9.x “Print when CF pressed”
then select the desired line items

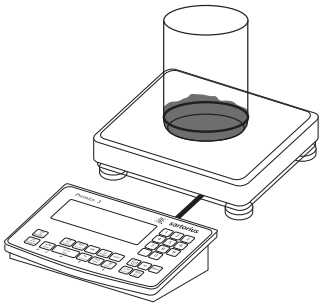


1. Place empty container on the platform

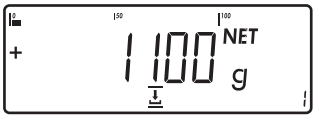
→T←

2. Tare the scale
   Note: If the automatic tare function is enabled, you do not need to press the →T← key to tare the scale; the tare weight is saved automatically when you place the container on the platform

Prompt to fill and save the first component is displayed



3. Add the first component to the container (in this example, 1100 g)



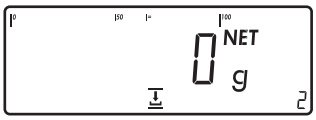
The weight of the first component is displayed

OK

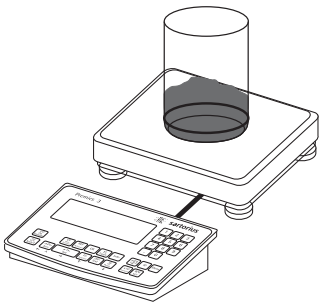
4. Store the weight of the first component

`Cmp001+  1.100 kg`

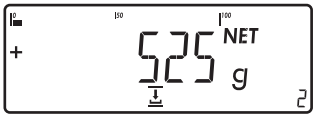
The component weight is printed automatically



The weighing platform is tared and the component counter value is increased by one. Prompt to fill and save the second component is shown.



5. Add the second component to the container (in this example, 525 g)



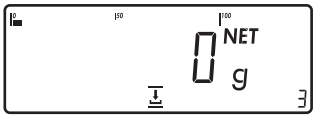
The weight of the second component is displayed

OK

6. Store the weight of the third component

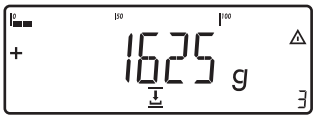
```
Cmp002+    0.525 kg
```

The component weight is printed automatically

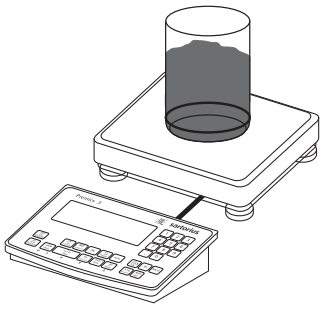


The weighing platform is tared and the component counter value is increased by one. Prompt to fill and save the third component is displayed.

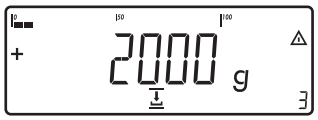
7. Toggle to the “additive mode” to view the total weight of all components.



The value displayed equals the weight of all components added up to now plus the current weight.



8. Add the third component to the container, bringing the total up to the desired target (in this example, 2000 g).



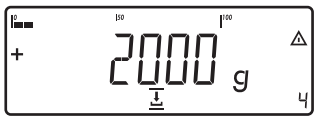
The total weight is displayed

OK

9. Store the weight of the third component

```
Cmp003+    0.375 kg
```

The component weight is printed automatically



The component counter value is increased by one. Prompt to fill and save a fourth component is shown.

CF

10. End weighing-in operation

Results are printed automatically (configured total printout)

```
n       +      3
Tot.cp+    2.000 kg
Cont.T+    0.296 kg
--------------------
```

Number of components
Contents of component memory
Content of tare memory (container weight

Configuring Printouts

Purpose
You can specify which data items are included on printouts. When using the Totalizing or Net-total Formulation application, you can also define which parameters are included in the "Total" data record when the CF key is pressed.

In the Setup menu under "Printout" you can configure an individual, component or total data record that contains all data items activated for the application program currently in use. The printout should be formatted only after the desired application has been configured, as some of the positions are application-dependent.

Features
- Quantity and content of data record lists:
  6 lists, each with a length of up to 30 data items
  - Individual printout, printer 1
  - Component printout, printer 1
  - Total printout, printer 1
  - Individual printout, printer 2
  - Component printout, printer 2
  - Total printout, printer 2
- You can configure individual, component and total printouts separately
- Generate an individual printout:
  Press (F)
  Automatic printout from application when active in operating menu:
  - Animal weighing/averaging
  - Checkweighing
  - Classification
- Generate component printout:
  Totalizing/Net-total formulation:
  Press the OK key (Applications: Totalizing: Printing: Component printout)
- Generate total printout:
  For Totalizing or Net-total Formulation; press the CF key
- When you change application programs in the operating menu, the selected data record lists are deleted.
  The new selection list is generated according to the active application programs.
- You can delete individual items from the list
- "Form feed" item in the printout footer:
  For advancing to the start of the next label in print mode "YDP01IS: Label" or "YDP04IS: Label: Manual form feed"
- ISO/GMP-compliant printout:
  The operating menu configuration under "ISO/GMP-compliant printout" is also active for configured printouts.

Preparation
- Switch on the scale: Press I/⏻
- While all segments are lit, press the →T← key
- Select the Setup menu: Press Fn repeatedly until Setup is displayed
- Open the Setup menu: Press the →T← key
- Press Fn repeatedly until PRTPROT is displayed
- Press the →T← key

PRTPROT (Printout)
- 7
  - 7.4 Header input and identifiers ID1 through ID4
  - 7.5 COM1 interface
  - 7.6 Optional UniCOM interface
  - 7.7 COM1 interface Configure standard printout (press (F), OK)
  - 7.8 Configure standard printout for optional UniCOM interface ((F), OK keys)
  - 7.9 COM1 interface Print results when CF pressed in applications
  - 7.10 Printout of results on optional UniCOM interface when CF pressed in applications
  - 7.13 ISO/GMP-compliant printout
  - 7.14 Date/time printout line: Time not printed
  - 7.15 One-time automatic printout at stability
  - 7.16 FlexPrint
  - 7.17 Decimal separator
- 9
  - 9.1 Factory settings

- Press →T← to save your settings and →T← (repeatedly) to exit the operating menu.

Configuring the Data Interface as a Printer Port (PRINTER)

You can connect one or two strip printers or one or two label printers to the Midrics. Configure the COM1 and UniCOM interfaces as printer ports under the "PRINTER" menu item.

There are several actions that generate the command for sending data to the printer port:

- Pressing the [F] key. If the operating menu is active, all menu settings under the active menu level are printed.
- On receipt of the SBI command "Esc k P _". For details, see "Data Input Format" in this chapter.
- In some applications, pressing a given key (e.g., to save a value or start a routine), also generates a print command. In this case, a configurable printout is generated with application-specific data.

The ⊙ and ◇ symbols are displayed while data is being sent to the printer port.

Configuring Printouts

Printouts are configured in the operating menu under the "Printouts" menu item (PRTPROT). Printouts should be formatted only after the desired application has been configured, as some of the positions are application-dependent.
You can configure a different printout for each interface. Each printout contains your choice of the information blocks described in the following; to enable or disable a block in the printout, select it or deselect it in the operating menu.

Midrics 2 only:
For the Totalizing and Net-total Formulation applications, you can also configure summarized printouts (results) independent of individual component value printouts.

Block 1: Headers
You can define 2 header lines, each with up to 20 characters (e.g., for printing your company's name).
Enter the header lines under menu items 7.4.1 and 7.4.2. Identifiers ID1 through ID4 can have up to 40 characters each. Enter identifier texts under menu items 7.4.3 through 7.4.6. Blank header lines are not printed.
Example: format of Block 1:

```
     ACE HARDWARE
      GOETTINGEN
ID1                    123
ID4                    789
```

In this example, the company name is centered on the printout. This was achieved by entering 3 spaces at the beginning of the first, and 4 spaces at the beginning of the second line.

Block 2: Date/Time
(not on Midrics 1)
Example: format of Block 2:

```
21.01.2006      16:02
```

To achieve a standardized time stamp (e.g., for documentation in a fully automated system), you can disable the printout of the time in this information block by selecting "Device parameters: Config. printout: Date/time: Date only" (7.14.2; factory setting: 7.14.1., "Date block includes time on printout"). When the "Time not printed" setting is active, the time stamp can be inserted by a higher-level controller or central computer to maintain consistent time stamping. This setting is especially important for communication between scale and computer.

Separating Block:
Dotted line, blank line (for the Weighing application).
This block is automatically inserted before further information blocks are printed.

```
--------------------
```

Block 3: Initialization Data
Which data is included in this block depends on the active application. It can include, for example, reference sample quantity, reference piece weight, target weight, etc. The block is terminated with a blank line. This block can only by activated for the standard printout; it cannot be selected for the printout of results.
Example: format of Block 3 (Counting application)

```
nRef            10 pcs
wRef   +     0.035 kg
```

GMP-compliant Printouts
When the corresponding menu item is active, the measured result is bracketed on the printout by a GMP header and a GMP footer (GMP = "Good Manufacturing Practice").
The GMP header precedes the first measured result. The GMP footer is printed either after each measured result ("ISO/GLP/GMP: For 1 application result," menu item 7.13.2), or after the last result in a series of measurements ("ISO/GMP/GLP: For several application results," menu item 7.13.3). To end a series of measured results, press and hold the (⊟) key (> 2 seconds). In this case, the ⊟ symbol is displayed after the GMP header is printed and remains in the display until the GMP footer is printed.

A GMP-compliant printout is generated automatically at the conclusion of calibration/adjustment routines, as well as when you set or clear a preload.

If you use a label printer for GMP-compliant printouts and menu item 7.13.3 is active, the header and footer are printed on two different labels. To generate GMP-compliant printouts on labels, select menu item 7.13.2.

Examples of GMP headers and one example of a footer are shown in the following.

Weighing platform WP1:

`--------------------`	Dotted line
`14.01.2007  09:43`	Date and time[1)]
`Typ  MW1P1`	Midrics model
`Ser.no.  12345678`	Midrics serial no.
`Vers.  1.1007.12.1`	Software release for application
`BVers.  01-25-01`	Software release for basic version
`--------------------`	Dotted line
	GMP footer:
`--------------------`	Dotted line
`14.01.2007  09:45`	Date and time[1)]
`Name:`	Field for operator signature
	Blank line
`--------------------`	Dotted line

[1)] Interface YDO01M-332CLK (Option A31) required

Sample Printouts

For details on the individual information blocks, see “Configuring Printouts” above. For details on configuring the header lines, refer to the chapter describing the particular application.

Weighing Application
There is no data for the “initialization data” block. If this block is enabled for the printout, a blank line is output.

```
    HEADER LINE 1
    HEADER LINE 2
14.01.2006     09:43
--------------------

G#     +     1.402 kg
T      +     0.200 kg
N      +     1.202 kg
--------------------
```

With weighing platform serial number:

```
--------------------

Ser.no.      80705337

G#     +     1.402 kg
T      +     0.200 kg
N      +     1.202 kg
--------------------
```

Counting Application
The “Initialization data” block contains the reference sample quantity and reference piece weight. The “Results” block contains gross, net and tare weights, as well as the calculated piece count.

```
--------------------
nRef            10 pcs
wRef   +     0.035 kg

G#     +     1.402 kg
T      +     0.212 kg
N      +     1.190 kg

Qnt             34 pcs
--------------------
```

Neutral Measurement Application
The “Initialization data” block contains the reference sample quantity and reference weight. The “Results” block contains gross, net and tare weights, as well as the calculated piece count.

```
--------------------
Ref              2 o
wRef   +     1.200 kg

G#     +    14.700 kg
T      +     0.300 kg
N      +    14.400 kg

Qnt             12 o
--------------------
```

Weighing in Percent Application
The “Initialization data” block contains the reference percentage and reference weight. The results block shows gross, net and tare weights, as well as the percentage, which is shown as either the loss or the residual amount.

Percentage = residue:

```
--------------------
pRef           100 %
Wxx%   +     2.100 kg

G#     +     1.859 kg
T      +     0.200 kg
N      +     1.659 kg

Prc             79 %
--------------------
```

Percentage = loss:

```
--------------------
pRef           100 %
Wxx%   +     2.100 kg

G#     +     0.641 kg
T      +     0.200 kg
N      +     0.441 kg

D               21 %
--------------------
```

Checkweighing Application
The “Initialization data” block contains the nominal, minimum and maximum weights. The “Results” block always contains the gross, net and tare weights. The other results can be displayed in one of two ways:

- Weight display
  The deviation from the nominal weight is given both as a percentage and as an absolute (weight) value, whether the result lies within the “OK” range or not.
- Result = Threshold status:
  If the result lies within the tolerance limits, the printout shows the deviation from the nominal weight both as a percentage and as an absolute (weight) value, just as in the “Weight” printout mode described above.
  If the result is outside the tolerance limits, the last line of the printout indicates the status as follows:

Result in within limits; “Weight” or “Threshold” printout:

```
--------------------
Setp   +     1.300 kg
Min    +     1.235 kg
Max    +     1.365 kg

G#     +     1.312 kg
T      +     0.000 kg
N      +     1.312 kg

Lim    +      0.92 %
Diff.W+      0.012 kg
--------------------
```

Result outside limits; “Threshold” printout:

```
--------------------
Setp   +     1.300 kg
Min    +     1.235 kg
Max    +     1.365 kg

G#     +     1.400 kg
T      +     0.000 kg
N      +     1.400 kg

Stat       HH
--------------------
```

Classification Application
The "Initialization data" block contains the upper limits of Classes 1 through 4. The "Results" block contains gross, net and tare weights, as well as the class that the sample belongs to (1 through 5, where Class 5 means that the upper limit of Class 4 was exceeded).

```
--------------------
Lim1   +    10.000 kg
Lim2   +    11.000 kg
Lim3   +    12.000 kg
Lim4   +    13.000 kg

G#     +     9.700 kg
T      +     0.000 kg
N      +     9.700 kg

Class              1
--------------------
```

Animal Weighing Application
The "Initialization data" block contains the number of measured values that averaging is based on. The "Results" block contains the tare weight and the mean value.

```
--------------------
mDef               8

T      +     0.000 kg
x-Net  +     4.202 kg
--------------------
```

Net-total Formulation Application
The "Initialization data" block is blank. If this block is enabled for the printout, a blank line is output.
Which data is contained in the "Results" block value depends on the program operating status at the time of printing.
The following options are available:
- Total/results printout
  After CF is pressed (tare memory is cleared)
- Individual/components printout
  After OK is pressed (component is stored in tare memory)
- Standard
  After ⌸ is pressed (component is not stored in tare memory)

'Total' printout:

```
--------------------
n                  2
S-Comp+     3.200 kg
Cont.T+     0.200 kg
--------------------
```

Component printout (menu item 3.17.3)
When the components printout is configured, the header is printed only once, followed by all components.
If you are using a label printer, make sure a single label is large enough for the list of all components. For printer models YDP01IS and YDP04IS, you can configure manual form feed in the operating menu. If the corresponding setting is active, you can activate "form feed" manually. With the YDP02IS printer, form feed is automatic after each print command (fixed setting).
Example with 2 components

```
    HEADER LINE 1
    HEADER LINE 2
14.01.2006      09:43
--------------------
Cmp001+     1.200 kg

Cmp002+     2.000 kg
```

Individual printout (menu item 3.17.2)
The entire standard printout is generated for each component.
Example for the second component:

```
    HEADER LINE 1
    HEADER LINE 2
14.01.2006      09:46
--------------------
Cmp002+      2.000 kg
```

Standard printout
Example before the second component is stored:

```
G#     +     3.400 kg
T      +     0.200 kg
T2     +     1.200 kg
N      +     2.000 kg
```

Totalizing Application
The "Initialization data" block is empty. If this block is enabled for the printout, a blank line is output.
Which data is contained in the "Results" block value depends on the program operating status at the time of printing.
The following options are available:
- Printout of results
  After CF is pressed (totalizing memory is cleared)
- Individual/component printout of one transaction
  After OK is pressed (component is stored in tare memory)
- Standard printout
  After ⌸ is pressed (component is not stored in tare memory)

'Total' printout:

```
--------------------

*G             9.200 kg
*N     +       8.600 kg
n                  3
--------------------
```

Component printout
(menu item 3.17.3)
The header is printed only once; all transactions are printed one after the other. For printing on a label printer, see also "Component printout, Net-total."
Example with 2 transactions:

```
    HEADER LINE 1
    HEADER LINE 2
14.01.2006      09:43
--------------------
G#     +     1.400 kg
T      +     0.200 kg
N      +     1.200 kg
n                  1

G#     +     3.400 kg
T      +     0.200 kg
N      +     3.200 kg
n                  2
```

Individual printout (menu item *3.17.2*)
The entire standard printout is generated for each component.
Example: Print second transaction:

```
    HEADER LINE 1
    HEADER LINE 2
14.01.2006    09:43
------------------
G#     +     2.400 kg
T      +     0.200 kg
N      +     2.200 kg
n                2
```

Standard printout
The transaction counter value is not printed.
Example: Print second transaction:

```
G#     +     2.400 kg
T      +     0.200 kg
N      +     2.200 kg
```

Print menu parameters:
All active menu item settings below the active menu level are printed.

```
--------------------
MENU
     SETUP.
WP1
--------------------
1
 1.1
            1.1.2
            1.2.1
            1.3.2
...
1.18
 1.18.1
  CAL.
          10,000 kg
```

etc.

Data Interface (Optional)

For COM1

Standard equipment: RS-232	Computer with serial RS-232 input port
SBI/XBPI protocol, Option A11:	printer: YDP04IS YDP02IS YDP12IS YDP03-0CE YAM01IS external Alibi memory YBT01 external Bluetooth adapter YRD02Z second display USB adapter cable for connecting a computer over USB: YCC01IS
Option: “RS-232 clock:” Option A31	As for the RS-232 standard, but includes date/time

For UniCOM

Male connector:	For RS-232 / RS-422 / RS-485 analog output port / digital I/O Ethernet: RJ45 socket
UniCOM (can be selected optionally)	
RS-232: Option A1, YDO01M-232CO	Computer with serial RS-232 input port, SBI/XBPI protocol and SMA YAM01IS external Alibi memory YBT01 external Bluetooth adapter YRD02Z second display USB adapter cable for connecting a computer over USB: YCC01-USBM2 YRD14Z red-green-red display (uses digital control lines) Digital control lines (TTL/5V) <;=;set;> to YSB01 relay Ethernet box
RS-422: Option A2, YDO01M-485/422	Point-to-point connection with SBI/XBPI protocol as SMA
RS-485: Option A3, YDO01M-485/422	Network, up to 32 weighing instruments, XBPI bus
Additional IS platform with standard RS-485 data output	
Analog output port: Option A9, YDO01M-20MA	Controllers with analog input
Digital I/O, 5 IN/5 OUT: Option A5, YDO01M-IO	For connection to a controller Digital IN: Voltage: 0–30V DC; current: 1 to 2 mA Digital OUT: Voltage: >30V DC; current: 100 mA For specific signals, please refer to the detailed descriptions of the options

Error Codes

Error codes are shown on the main display. “Err” codes are shown continuously; “Inf” messages are displayed for 2 seconds, after which the program returns automatically to the weighing mode.

Error code	Cause	Solution
ERR 101	Key is stuck Key pressed at power on	Release key Contact your local Service Center
ERR 320	Program memory defective	Contact your local Service Center
ERR 340	Operating parameter memory (EEPROM) defective	Turn the scale off and then on again, If the error code remains displayed, please contact your local Service Center
ERR 341	Loss of data	Contact your local Service Center
ERR 343	Loss of data from the memory area for transaction numbers in external Alibi memory	Contact your local Service Center
INF 01	Data output not compatible with output format	Change the menu settings
INF 02	Calibration/adjustment condition not met; e.g., the scale was not tared	Calibrate only when zero is displayed Press →T← to tare
INF 03	Calibration/adjustment could not be completed within a certain time	Allow the scale to warm up and then repeat the adjustment process
INF 07	Function not allowed in scales verified for use in legal metrology	Contact your local Service Center for information on changing settings
INF 08	The load on the scale is too heavy to zero the readout	Check “Initial zero-setting range” (menu item 1.12)
INF 09	Taring is not possible when the gross weight is ≥ zero	Zero the scale
INF 10	Tare key is blocked when there is data in the tare memory	The data stored for the application must be deleted before taring
INF 22	Error when storing reference value; load is too light	Put a heavier weight on the scale
INF 23	Error in initializing an application	Contact your local Service Center
INF 29	Minimum load not reached	Define a lower value for the minimum load (in the Application menu, item 3.6)
INF 71	Cannot store the current weight value (e.g., if control limits are too low or too high)	None
INF 72	Cannot store the current weight value (e.g., the transaction counter has reached its limit)	None
INF 73	Data not found or unreadable	Contact your local Service Center
INF 74	Function is blocked (e.g., menu is locked)	None
INF 98	No weighing platform connected	Contact your local Service Center
INF 99	No weighing platform connected	Contact your local Service Center
NO WP	No weighing platform connected	Contact your local Service Center

Care and Maintenance

Service
Regular servicing by your customer service partner will ensure the continued weighing accuracy of your scale.

The optimum length of the service interval depends on the operating conditions at the place of installation and on your tolerance requirements.

Repairs
⚠ Disconnect defective equipment from power immediately (unplug the equipment from the wall outlet (mains supply)). Repair work must be performed by authorized Sartorius service technicians using genuine Sartorius spare parts. Any attempt by untrained persons to perform repairs may result in considerable hazards for the user.
Important note: If the equipment is still under warranty, send the entire scale to the factory for repairs.
⚠ If a cable or cable gland is damaged or defective, replace the cable as a complete unit with all its connectors.
⚠ Do not open the scale while it is carrying current. Allow approximately 10 seconds to elapse after disconnecting the equipment from power before opening the equipment housing. Proper fitting of all surfaces is essential for the IP rating of the housing; for this reason the device must be opened and closed by a certified technician.

Cleaning
Midrics scales are designed in compliance with European Hygienic Equipment Design Group (EHEDG) directives for contamination prevention, which means they are
particularly easy to clean and disinfect.

⚠ Disconnect the scale from power (unplug the from the wall outlet (mains supply) and disconnect any data cables.
⚠ Make sure that no liquid penetrates the scale housing.
⚠ Do not use any aggressive cleaning agents (solvents or similar agents.).
⚠ Do not wash down the equipment with water or dry it with compressed air; this is not permitted.
● Clean the scale using a piece of cloth which has been wet with a mild detergent (soap).
○ If used in the food industry, use a cleaning agent suitable for the particular working environment.
● After cleaning, wipe down the display and control unit with a soft, dry cloth.

Cleaning Stainless Steel Surfaces
Clean all stainless steel parts regularly. Use a damp cloth or sponge to clean stainless steel parts on the scale. You can use any household cleaning agent that is suitable for use on stainless steel. Clean stainless steel surfaces by wiping them down. Then rinse the equipment thoroughly, making sure to remove all residues, and allow the equipment to dry. If desired, you can apply oil to the cleaned surfaces as additional protection. Solvents are permitted only for cleaning stainless steel parts.

Replacing the Dust Cover
> Replace damaged dust covers.
● Place the new dust cover on the display and control unit and press down on the front and back along the edges until the cover is firmly seated.

Safety Inspection
Safe operation of the scale is no longer ensured when:
– there is visible damage to the device or power cord,
– the built-in power supply no longer functions properly
– the device has been stored for a relatively long period under unfavorable conditions (e.g., extreme moisture)

If there is any indication that safe operation of the scale is no longer warranted:
● Disconnect the equipment from power (unplug the equipment from the wall outlet (mains supply)) and lock it in a safe place to ensure that it cannot be used.
● Notify your nearest Sartorius Service Center or the International Technical Support Unit based in Goettingen, Germany.

Maintenance and repair work may be performed only by authorized Sartorius service technicians who:
– have access to the required service and maintenance manuals, and
– have attended the relevant service training courses.

⚠ The warranty seals affixed to this equipment indicate that the equipment may be opened only by authorized service technicians, to ensure safe and trouble-free operation of the equipment and to maintain the conditions for warranty coverage.

Recycling

Information and Instructions on Disposal and Repairs

Packaging that is no longer required must be disposed of at the local waste disposal facility. The packaging is made of environmentally friendly materials that can be used as secondary raw materials.

The equipment, including accessories and batteries, does not belong in your regular household waste. The European legislation requires that electrical and electronic equipment be collected and disposed of separately from other communal waste with the aim of recycling it.

In Germany and many other countries, Sartorius AG takes care of the return and legally compliant disposal of its electrical and electronic equipment on its own. These products may not be placed with the household waste or brought to collection centers run by local public disposal operations – not even by small commercial operators.

For disposal in Germany and in the other member nations of the European Economic Area (EEA), please contact our Service technicians on location or our Service Center in Goettingen, Germany:

Sartorius AG
Service Center
Weender Landstrasse 94–108
37075 Goettingen, Germany

In countries that are not members of the European Economic Area (EEA) or where no Sartorius subsidiaries or dealerships are located, please contact your local authorities or a commercial disposal operator.

Prior to disposal and/or scrapping of the equipment, any batteries should be removed and disposed of in local collection boxes.

Sartorius AG will not take back equipment contaminated with hazardous materials (ABC contamination) – either for repair or disposal. Please refer to the accompanying leaflet/manual or visit our Internet website (www.sartorius.com) for comprehensive information that includes our service addresses to contact if you plan to send your equipment in for repairs or proper disposal.

Overview

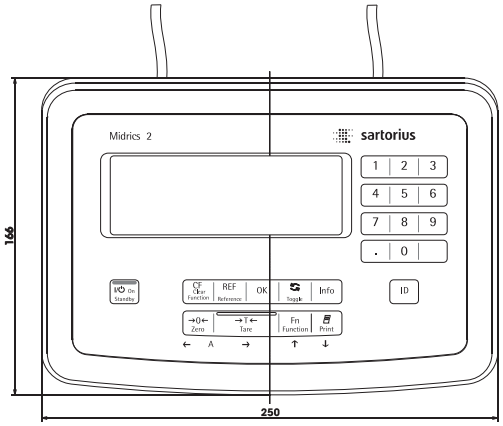
Specifications

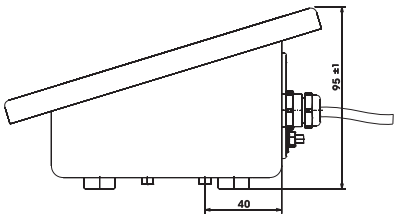
Maximum readability	15,000 scale intervals (in not legal metrology)
Accuracy class	(III) and (IIII) (for "..-.CE" models)
Verification scale intervals (example)	≤ 3000e (single-range scale) or 2× 3000e (multiple-range scale) acc. to EN 45501
Digital protective interface	in accordance with EN 45501
Data interface	optional
Display	14 segments; backlit
Ambient conditions: Operating temperature range Humidity	 -10°C to +40°C (+14°F to 104°C) Maximum relative humidity 80% for temperature up to 31°C (~88°F); linear decrease down to 50% relative humidity at 40°C (+104°F)
Protection class of the housing in accordance with EN 60529	 IP 65
Pollution degree 2	Normally only nonconductive pollution occurs. Temporary conductivity caused by condensation is to be expected.
Ratings: Power supply Transient overvoltage Operation using protective extra low voltage	 100-240 VAC (-15/+10%), 50-60 Hz, 17 W/23 VA max. Overvoltage category II acc. to IEC 60364-4-443 See instruction manual for Option L8 (24-volt module)
DC supply AC supply	22.8 ... 26.7 V (optional: 21.6 ... 26.7 V); 12 VA max. 22.8 ... 26.7 V, 50-60 Hz, 12 VA max.
Operation with rechargeable battery	See Sartorius Installation Instructions for Option L9 Operation via built-in or external rechargeable battery (only available as an option that must be ordered with the scale)
Emissions	Acc. to EN613-1 (IEC 61326-1) Group 1, Class B, suitable for use in domestic establishments and establishments directly connected to a low-voltage power-supply network that supplies buildings used for domestic purposes
Immunity to interference:	Acc. to EN61326-1): Immunity test requirements for equipment intended for use in industrial locations (Table 2)
Electrical safety	Acc. to EN 61010-1 (IEC 1010-1)

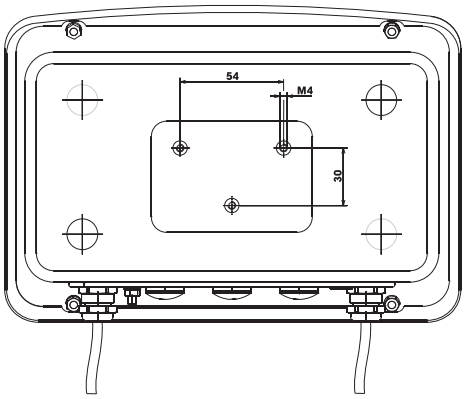
Platform Specifications

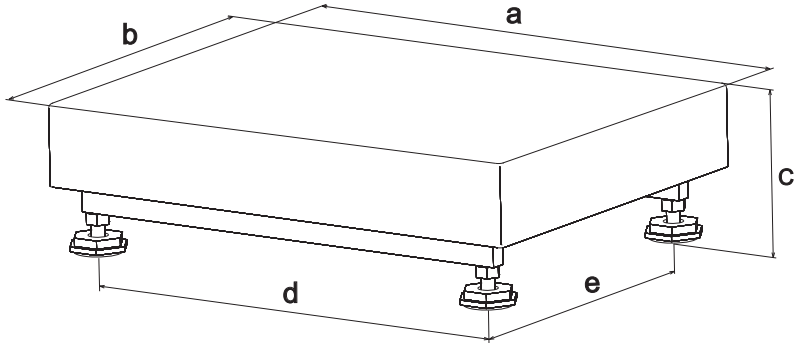
Model code:	**MW...-L**	**MW...-LCE**	**MW....-NCE (2×3000e)**			
Type:		**SARTICS**	**SARTICS**			
Approval no.:		**D04-09-015**	**D04-09-015**			
	Readability	**Readability**	**Weighing range 1**		**Weighing range 2**	
Weighing capacity	**15000d**	**1×3000e**	**Maximum capacity**	**Readability**	**Maximum capacity**	**Readability**
3 kg	0.2 g	1 g	1.5 kg	0.5 g	3 kg	1 g
6 kg	0.5 g	2 g	3 kg	1 g	6 kg	2 g
15 kg	1 g	5 g	6 kg	2 g	15 kg	5 g
30 kg	2 g	10 g	15 kg	5 g	30 kg	10 g
60 kg	5 g	20 g	30 kg	10 g	60 kg	20 g
150 kg	10 g	50 g	60 kg	20 g	150 kg	50 g
300 kg	20 g	100 g	150 kg	50 g	300 kg	100 g
600 kg	50 g	200 g	300 kg	100 g	600 kg	200 g
1500 kg	100 g	500 g	600 kg	200 g	1500 kg	500 g
3000 kg	200 g	1000 g	1500 kg	500 g	3000 kg	1000 g

Dimensions (Scale Drawings)









Standard and Stainless Steel Versions

Model	Length	Width	Height Standard version	Height Stainless steel version	Spacing between leveling feet Standard version		Spacing between leveling feet Stainless steel version		Cable length
	a	b	c	c	d	e	d	e	
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(m) ca.
DC	320	240	85...100	85...100	275	195	275	195	1.5
ED	400	300	96...111	96...111	356	256	356	256	1.5
FE	500	400	110...125	110...125	455	355	455	355	1.5 (painted) | 3.0 (stainless steel)
GF	650	500	142...162	140...160	603	453	603	453	3.0
lG	800	600	142...162	140...160	752	552	752	552	3.0
ll	800	800	100...105	100...105	700	700	700	700	6.0
Ll	1000	800	100...105	100...105	900	700	900	700	6.0
LL	1000	1000	100...105	100...105	900	900	900	900	6.0
NL	1250	1000	100...105	100...105	1150	900	1150	900	6.0
NN	1250	1250	100...105	100...105	1150	1150	1150	1150	6.0
RN	1500	1250	100...105	100...105	1400	1150	1400	1150	6.0
RR	1500	1500	100...105	100...105	1400	1400	1400	1400	6.0
WR	2000	1500	100...105	100...105	1900	1400	1900	1400	6.0

All dimensions given in millimeters

YDP03-0CE

Accessories/Options

Printer and printer accessories:

Verifiable printer with functions for date, time and statistical evaluations; connecting cable required YCC02-D09F6	YDP03-0CE
Printer paper for data printer (5 rolls; length per roll: 50 m)	6906937
Replacement ink ribbon cartridge for YDP03-0CE/YDP04	6906918

YDP04IS

Verifiable strip and label printer with thermal print head, up to 60 mm paper width, with external 100–240V power supply; connecting cable required	YDP04IS-0CEUV YCC02-D09M6
Verifiable strip and label printer with thermal print head up to 108 mm paper width, with external 100–240V AC adapter and power cord (EU+US); for use only with flexible print formatting; connecting cable required	YDP12IS-0CEUV YCC02-D09M6
Labels for YDP04IS-0CEUV + YDP12IS-0CEUV Labels: 58×30 mm (1000 pcs) Labels: 58×76 mm (500 pcs) Labels: 58×100 mm (380 pcs) Labels for YDP12IS-0CEUV Labels: 101×127 mm (305 pcs)	 69Y03092 69Y03093 69Y03094 69Y03195
Printer paper for YDP04IS-0CEUV + YDP12IS-0CEUV 3 paper rolls; 60 mm × 75 m, thermo paper	 69Y03090
Printer paper for YDP12IS-0CEUV 1 paper roll; 101 mm × 75 m, thermo paper	 69Y03196

YDP12IS

Verifiable strip and label printer with thermal print head, up to 108 mm paper width, with external 100–240V power supply and power cord (EU+US); for use only with flexible print formatting; connecting cable required	YDP12IS-0CEUVTH YCC02-D09M6
3 color ink cartridges for YDP12IS-0CEUVTH	69Y03234

Product	Order No.
COM1	
RS-232	YDO01M-232
RS-232+CLOCK	YDO01M-232CLK
Optional UniCOM interface	
Interface module (RS-232)	YDO01M-232CO
Interface module (RS-485), electrically isolated	YDO01M485
Digital I/O, 5/5, opto-isol.	YDO01M-IO
Analog current output, 0–20mA, 4–20mA, 0 to 10 volts, 16 bit	YDA01M-20MA
Ethernet	YDO01M-EN
External interface adapters	
Cable for connecting RS-232 data interface to USB port on a computer[2)]	YCC01-USBM2
Electrical Accessories	
External red/green/red display with 12-pin round male connector (IP67) for scale/display and control unit YCC02-R12F6 adapter cable or Option M6 required	YRD14Z
Remote display; connecting cable YCC02-D25F6 or Optioin M31 (required)	YRD02Z
Relay box for connecting scales to external controllers, with 4 (5) relay outputs (250V/3A) and 1 opto-electronic coupler input (0–30V), YCC02-RELAIS02 connecting cable required	YSB01
Additional Options	
Dust covers (set of 2)	YDC01SW
Cable gland (PG) for cables with diameter of 4.5 to 9 mm, IP67, M16 × 1.5	YAS04CIS
Kit for control panel installation 3)	YAS03MI
Software	
Sartorius WinScale driver software for Windows 95/98/2000/NT with real-time readout display and verifiable electronic data storage. YCC-R12F6 RS-232 connecting cable (option M6) required	YSW03
SartoConnect data transfer software for connecting your Sartorius scale to a computer; (includes cable for connecting the scale to a computer (12-pin <–> 9-pin); length: 1.5 m) YCC02-R12F6 connecting cable (Option M36) required	YSC01L
Power Supply Options	
10–30 volt module	YAS02MI
Rechargeable battery (external; operating time: 10h; charging time: 8h), with charging unit	YRB08Z
Cable with cable gland for Sartorius weighing instruments; one end open, other end 2-contact phone jack, 0.8 m	YCC02-RB03

Accessories/Options

Product	Order No.
Cables	
Connecting cable with cable gland for YDP12/04IS printers, open cable ends to 9-pin D-Sub male connector; 6 m	YCC02-D09M6
Connecting cable with cable gland for a YDP03-0CE printer or a computer, open cable ends to 9-contact D-Sub female connector; 6 m	YCC02-D09F6
Connecting cable with cable gland for accessories, open cable ends to 25-contact D-Sub female connector; 6 m	YCC02D25F6
Connecting cable with cable gland, for accessories and IS platforms; open cable ends to 12-contact round female connector; 6 m	YCC02D25F6
Connecting cable with cable gland (PG), both ends open; 6 m	YCC02RELAIS02
Connecting cable for YDAD1C-20MA current interface, open cable ends; 1 unit ordered = 1 m	6906926
Mechanical Accessories	
Retainer plate for mounting display and control unit on front of scale; AISI type 304 stainless steel (1.4301/VA2); only for platform dimensions 320×240 mm (DC), 400×300 mm (ED) and 500×400 mm (FE)	YDH12CWS
Plug and socket set for separable connection of platform to display and control unit	YAS99I
Stainless steel wall-mounting bracket	YDH01CIS
Stainless steel wall-mounting bracket for tiltable display and control unit	YDH02CIS
Floor-mounted column, painted; height: 1.1 m	YDH03CIP
Floor-mounted column, stainless steel; height: 1.1 m	YDH03CIS
Base for installing the floor-mounted column; stainless steel (4 struts)	YBP03CIS
Retainer for a printer, for attachment to a floor-mounted column or bench stand	YPP01CWS

Drive-on ramp, painted, for equipment with the following dimensions:

Weighing platform size in mm	Ramp length × width	Order no.
800×800	1200×800	YAR01MAPP
800×1000	1200×800	YAR01MAPP
1000×800	1200×1000	YAR02MAPP
1000×1000	1200×1000	YAR02MAPP
1250×1000	1200×1000	YAR02MAPP
1250×1000	1200×1250	YAR02MAPP
1250×1250	1200×1250	YAR03MAPP
1500×1250	1200×1250	YAR03MAPP
1500×1250	1200×1500	YAR04MAPP
1500×1500	1200×1500	YAR04MAPP
2000×1500	1200×2000	YAR05MAP

Drive-on ramp, stainless steel, for equipment with the following dimensions:

Weighing platform size in mm	Ramp length × width	Order no.
800×800	1200×800	YAR01MAPS
1000×800	1200×800	YAR01MAPS
1000×800	1200×1000	YAR02MAPS
1000×1000	1200×1000	YAR02MAPS
1250×1000	1200×1000	YAR02MAPS
1250×1000	1200×1250	YAR03MAPS
1250×1250	1200×1250	YAR03MAPS
1500×1250	1200×1250	YAR03MAPS
1500×1250	1200×1500	YAR04MAPS
1500×1500	1200×1500	YAR04MAPS
2000×1500	1200×1500	YAR04MAPS
2000×1500	1200×2000	YAR05MAPS

Pit frame edges, painted, for equipment with the following dimensions:

Weighing platform, in mm	Order no.
800×800	YEG01MAPP
1000×800	YEG02MAPP
1000×1000	YEG03MAPP
1250×1000	YEG04MAPP
1250×1250	YEG05MAPP
1500×1250	YEG06MAPP
1500×1500	YEG07MAPP
2000×1500	YEG08MAPP

Pit frame edges, stainless steel, for equipment with the following dimensions:

Weighing platform, in mm	Order no.
800×800	YEG01MAPS
1000×800	YEG02MAPS
1000×1000	YEG03MAPS
1250×1000	YEG04MAPS
1250×1250	YEG05MAPS
1500×1250	YEG06MAPS
1500×1500	YEG07MAPS
2000×1500	YEG08MAPS

Set of stainless steel floor fasteners

	Order no.
(2 stainless steel plates, 4 stainless steel anchors)	YFP01CWS

Column, painted, for attaching the display and control unit to the weighing platform. Dimensions:

Size in mm	Order no.
320×240, height: 330	YDH01CWP
400×300, height 500	YDH02CWP
500×400, height: 500	YDH02CWP
500×400, height: 750	YDH03CWP

Column, stainless steel, for attaching the display and control unit to the weighing platform. Dimensions:

Size in mm	Order no.
320×240, height 330	YDH01CWS
400×300, height: 500	YDH02CWS
500×400, height: 500	YDH02CWS
500×400, height: 750	YDH03CWS

Declarations of Conformity

In 1985, the Council of the European Community approved a resolution concerning a new approach to the technical harmonization and standardization of national regulations. Monitoring compliance with the directives and standards concerning the C marking is governed in the individual EU Member States through the implementation of the EC Directives adopted by the respective national laws. As of December 1993, the scope of validity for all EC Directives has been extended to the Member States of the European Union and the Signatories of the Agreement on the European Economic Area.

Sartorius complies with the EC Directives and European Standards in order to supply its customers with weighing instruments and related equipment that feature the latest technology and provide many years of trouble-free service.

The CE marking is affixed only to weighing instruments and associated equipment that comply with the following Directives:

Council Directive 89/336/EEC:
"Electromagnetic compatibility (EMC)"
Applicable European Standards:

1. Electromagnetic compatibility:

1.1 Reference to 89/336/EEC:
Official Journal of the European Communities, No. 2001/C105/03

EN 61326-1	Electrical equipment for measurement, control and laboratory use EMC requirements
Part 1:	General requirements Defined immunity to interference: Industrial areas, continuous un-monitored operation Limitation of emissions: Residential areas, Class b

Note:
The operator shall be responsible for any modifications to Sartorius equipment (not permitted in legal metrology!) and for any connections of cables or equipment not supplied by Sartorius and must check and, if necessary, correct these modifications and connections. On request, Sartorius will provide information on the minimum operating specifications (in accordance with the Standards listed above for defined immunity to interference).

Council Directive 73/23/EEC
"Electrical equipment designed for use within certain voltage limits"
Applicable European Standards:

EN 60950	Safety of information technology equipment including electrical business equipment
EN 61010	Safety requirements for electrical equipment for measurement, control and laboratory use
Part 1:	General requirements

If you use electrical equipment in installations and under ambient conditions requiring higher safety standards, you must comply with the provisions as specified in the applicable regulations for installation in your country.

Weighing Instruments for Use in Legal Metrology: Council Directive 90/384/EEC
"Non-automatic weighing instruments"
This Directive regulates the determination of mass in legal metrology.
The respective Declaration of Type Conformity for Sartorius weighing instruments verified for use as legal measuring instruments that have an EC Type-Approval Certificate is included in this instruction manual. This Directive also regulates EC verification by the manufacturer, provided that an EC Type-Approval Certificate has been issued and the manufacturer has been accredited by an officer of a Notified Body registered at the Commission of the European Community for performing such verification. The legal basis for EC verification is EC Directive No. 90/384/EEC for non-automatic weighing instruments, which has been in effect since January 1, 1993, within the Single European Market, and the accreditation of the Quality Management System of Sartorius AG by Lower Saxony's Regional Administrative Department of Legal Metrology (Niedersächsische Landesverwaltungsamt – Eichwesen) from February 15, 1993.
For additional information on the CE mark on Sartorius equipment, see Sartorius Publication No. W- -0052-e93081.

"EC Verification" –
A Service Offered by Sartorius
Our service technicians authorized to perform the verification* of your weighing instruments that are acceptable for legal metrological verification can inspect and verify the metrological specifications at the place of installation within the Member States of the European Union and the Signatories of the Agreement on the European Economic Area.

Subsequent Verifications within the European Countries
The validity of the verification will become void in accordance with the national regulations of the country in which the weighing instrument is used. For information on verification and legal regulations currently applicable in your country, and to obtain the names of the persons to contact, please contact your local Sartorius office, dealer or service center. For more information on the verification of weighing instruments for use in legal metrology, contact the Sartorius Service Center.

CE

Declaration of Conformity to Council Directives 89/336/EEC, 2006/95/EEC and 94/9/EEC

The modular electronic precision weighing instrument of the series MW...-../MIS.-.., MAP..

meets the applicable requirements of the test standards listed below, in conjunction with auxiliary peripheral devices and installation equipment listed in Annex A2 (see Annex A1 for a technical description and a list of the individual versions).

1. Electromagnetic Compatibility

1.1 DIN EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements —
Part 1: General requirements (IEC 61326-1:2005); German version EN 61326-1:2006

1.2 Test report no.: SAG.07.EMC.002, SAG.07.EMC.003, 0341, 0344, 0347, 0348

2. Safety of Electrical Equipment

2.1 DIN EN 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use —
Part 1: General requirements (IEC 61010-1:2001); German version EN 61010-1:2001

2.2 Test report no.: SAG.06.LVD.002

3. Equipment or protective systems or components intended for use in potentially explosive atmospheres and for use in presence of combustible dust

3.1 DIN EN 60079-0 Electrical apparatus for explosive gas atmospheres —
Part 0: General requirements (IEC 60079-0:2004); German version EN 60079-0:2004

DIN EN 60079-15 Electrical apparatus for explosive gas atmospheres —
Part 15: Construction, test and marking of type of protection "n" electrical apparatus (IEC 60079-15:2005); German version EN 60079-15:2005

3.2 DIN EN50014 Electrical apparatus for potentially explosive atmospheres —
General requirements; German version EN 50014:1997. + Corrigendum:1998 + A1:1999 + A2:1999

DIN EN 50281-1-1 Electrical apparatus for use in the presence of combustible dust —
Part 1-1: Electrical apparatus protected by enclosures; construction and testing; German version EN 50281-1-1:1998 and amendment A1:2002

3.3 Test report no.: SAG.06.ATEX.005

Sartorius AG
37070 Goettingen, Germany
2007

C. Oldendorf
Vice President, R&D, Technological Operations & Innovations and Authorized Officer
Mechatronics Division

Dr. D. Klausgrete
Head of
International Certification Management
Mechatronics Division

CE Declaration of Type Conformity to Directive No. 90/384/EEC

This declaration is valid for non-automatic electromechanical weighing instruments for use in legal metrology. These weighing instruments accepted for legal metrological verification have an EC Type-Approval Certificate. The model(s) concerned is (are) listed below along with the respective type, accuracy class, and EC Type-Approval Certificate number:

Model	Type weighing instrument	Type indicator	Accuracy class	EC type-approval certificate no.	Indicator test certificate no.
MW...-.CE	SARTICS	TM	(III)	D04-09-015	D09-07.21

SARTORIUS AG declares that its weighing instrument types comply with the requirements of the Council Directive on non-automatic weighing instruments, no. 90/384/EEC of 20 June 1990; the associated European Standard "Metrological aspects of non-automatic weighing instruments," No. EN 45501; the amended, currently valid versions of the national laws and decrees concerning legal metrology and verification in the Member States of the European Union, the EU, and the Signatories of the Agreement on the European Economic Area, which have adopted this Council Directive into their national laws; and with the requirements stipulated on the Type-Approval Certificate for verification. This Declaration of Type Conformity is valid only if the ID label on the weighing instrument has the CE mark of conformity and the green metrology sticker with the stamped letter "M" (the two-digit number in large print stands for the year in which the mark was affixed):

CE 07 0111 M

If these marks are not on the ID label, this Declaration of Type Conformity is not valid. Validity can be obtained, for example, by submitting the weighing instrument for final action to be taken by an authorized representative of SARTORIUS AG. The period of validity of this Declaration of Type Conformity shall expire upon any tampering with, repair or modification of this weighing instrument or, in some Member States, on the date of expiration. This declaration applies only to the weighing instrument without peripheral devices.
The operator of this weighing instrument shall be responsible for obtaining an authorized renewal of the verification, such as subsequent or periodic verification, of the weighing instrument for use as a legal measuring instrument.

Sartorius AG
37070 Goettingen, Germany
Signed in Goettingen on 20 April 2007

Dr. G. Maaz
President of the Mechatronics Division

J. Rehwald
Head of the Production Department
Mechatronics / Weighing Technology Division

LOP-3.225_an2e_2005.06.09.doc
P106ej00.doc

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

EG-Bauartzulassung

EC type-approval certificate

Zulassungsinhaber: *Issued to:*	Sartorius AG Weender Landstr. 94-108 37075 Göttingen
Rechtsbezug: *In accordance with:*	§ 13 des Gesetzes über das Mess- und Eichwesen *(verification act)* vom*/dated* 23. März 1992 (BGBl. I S. 711), zuletzt geändert am *(last amended on)* 02.02.2007 (BGBl. I S. 58), in Verbindung mit Richtlinie *(in connection with council directive)* 90/384/EWG, geändert durch *(amended by)* 93/68/EWG
Bauart: *In respect of:*	Nichtselbsttätige elektromechanische Waage mit oder ohne Hebelwerk *Nonautomatic electromechanical weighing instrument with or without lever system*
Typ / *Type*:	SARTICS
	Max 0,5 kg ... 300 t — Option: Mehrbereichs- und Mehrteilungswaage (III) n ≤ 6250 — *multi-interval and multiple range instrument* (IIII) n ≤ 1000
Zulassungsnummer: *Approval number:*	**D04-09-015 3. Revision**
Gültig bis: *Valid until:*	07.04.2014
Anzahl der Seiten: *Number of pages:*	12
Geschäftszeichen: *Reference No.:*	PTB-1.12-4028899
Benannte Stelle: *Notified Body:*	0102

Im Auftrag
By order

Marcus Link

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 40

Braunschweig, 30.03.2007

Siegel
Seal

Die Hauptmerkmale, Zulassungsbedingungen und Auflagen sind in der Anlage enthalten, die Bestandteil der Revision der EG-Bauartzulassung ist. Hinweise und eine Rechtsbehelfsbelehrung befinden sich auf der ersten Seite der Anlage

The principal characteristics, approval conditions and special conditions, if any, are set out in the Annex which forms an integral part of this Revision of the EC type-approval certificate. For notes and information on legal remedies, see first page of the Annex.

R3-0023

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

Prüfschein

Test certificate

Ausgestellt für: *Issued to:*	Sartorius AG Weender Landstr. 94-108 37075 Göttingen
Prüfgrundlage: *In accordance with:*	EN 45501 (1992), Nr. 8. WELMEC-Dokument 2.1 (2001) Richtlinie 90/384/EWG, OIML R 76-1
Gegenstand: *Object:* Typ */ Type:*	Auswertegerät *Indicator* TM...
Kennummer: *Serial number:*	
Prüfscheinnummer: *Test certificate number:*	D09-07.21 *D09-07.21*
Datum der Prüfung: *Date of Test:*	
Anzahl der Seiten: *Number of pages:*	9
Geschäftszeichen: *Reference No.:*	PTB-1.12-4028898
Benannte Stelle: *Notified Body:*	0102

Im Auftrag
By order

Marcus Link

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 40

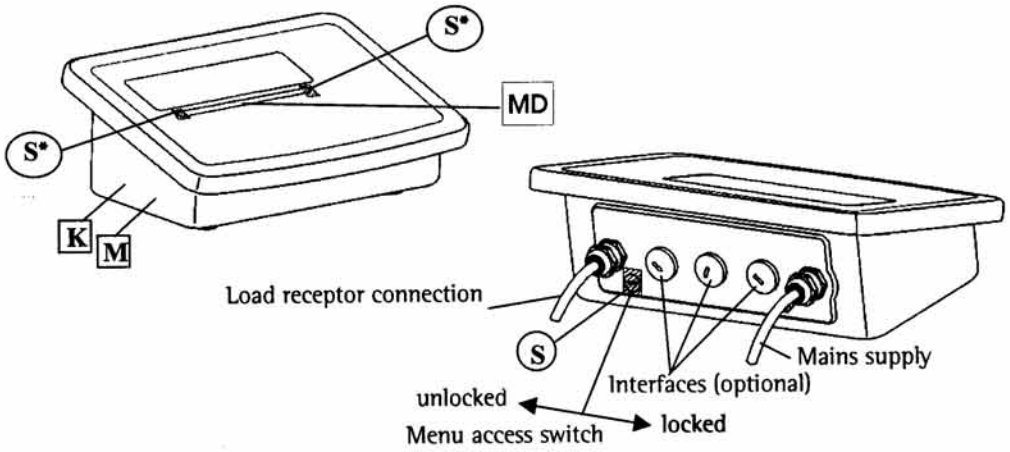
Braunschweig, 29.03.2007

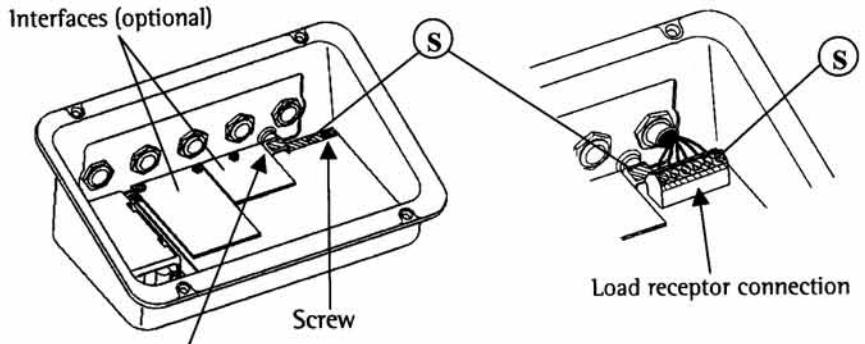
Siegel
Seal

R3-0025

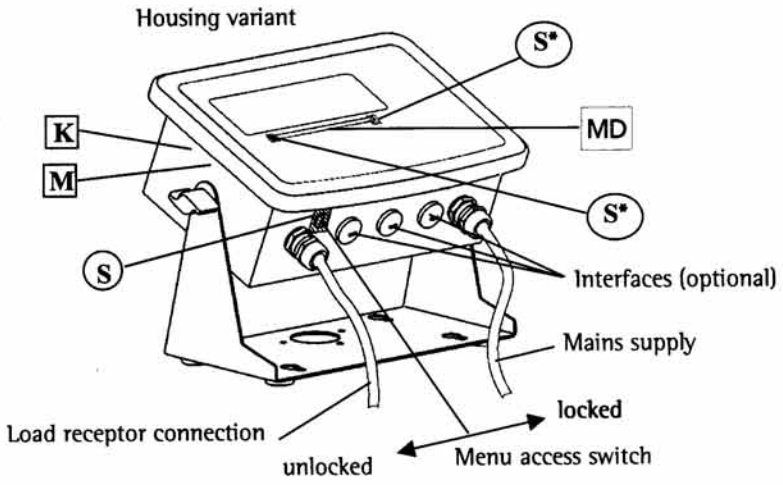
Hinweise siehe erste Seite der Anlage, die Bestandteil des Prüfscheines ist.
For notes, see first page of the Annex which forms an integral part of the test certificate.

Plates and Markings





Locking plate over menu access switch.
The plate and one screw of the circuit board must be secured.



PPMW270307e

Type of weighing instrument: SARTICS Type of indicator: TM
EC type-approval certificate D04-09-015 + test certificate D09-07.21

[K] Descriptive plate (ID label) with CE mark

[M] Green metrology sticker

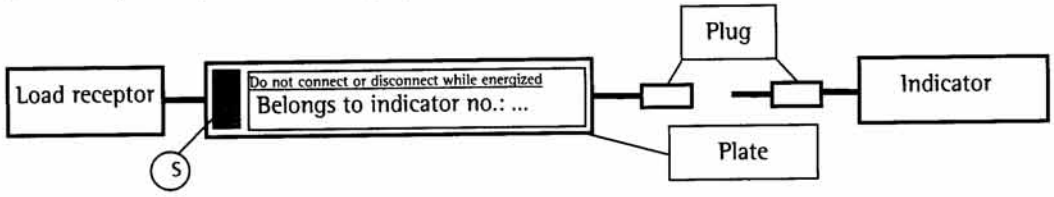
(S) Protective mark (self-adhesive mark or seal)

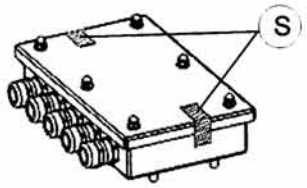
(S*) Protective mark, only for transferable labels (detachable labels that remain intact after removal)

[T] Plate with model designation

[MD] Metrological data: Max, Min and e

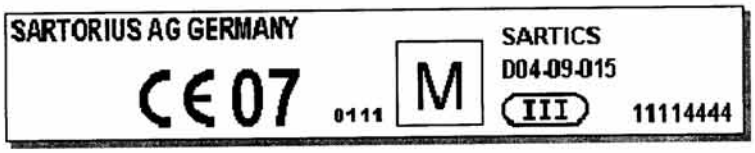
Alternative separable (disconnectable) plug connection between indicator and load receptor.





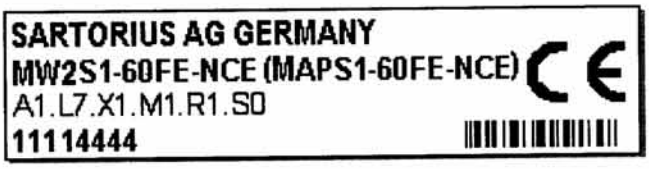
If there is a junction box between the load receptor and the electronic evaluation unit, the junction has to be secured against tampering.

Example of descriptive plate on a weighing instrument already verified [K]

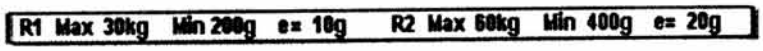


Example of plate with model designation of the terminal [T]

Example of plate with model designation of the platform [T]



Example of label with metrological data [MD]



PPMW270307e

Type of weighing instrument: SARTICS Type of indicator: TM
EC type-approval certificate D04-09-015 + test certificate D09-07.21

Index

Appendix: General Password

When you select the Setup menu item, the password prompt is displayed for 2 seconds, and then

the cursor flashes in the position of the first character of the password.

Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;
Repeatedly: Fn, →T←;

Enter the password
– Press Fn to enter letters and →T← to save.
Press the Fn key (to scroll through numbers in ascending order: 0 to 9) or the ⊟ key (to scroll through numbers in descending order: (9 to 1, and then 0) as often as needed to enter the desired characters.
If your password is longer than 7 characters, the display scrolls to the right to show the last character.

The password entered is now displayed.

→T←

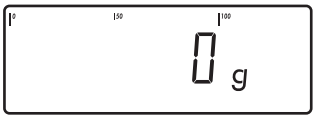
Confirm the password as entered

→0←

Return to next higher menu level

→T← press and hold

Save setting and exit the operating menu



General Password:
40414243

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