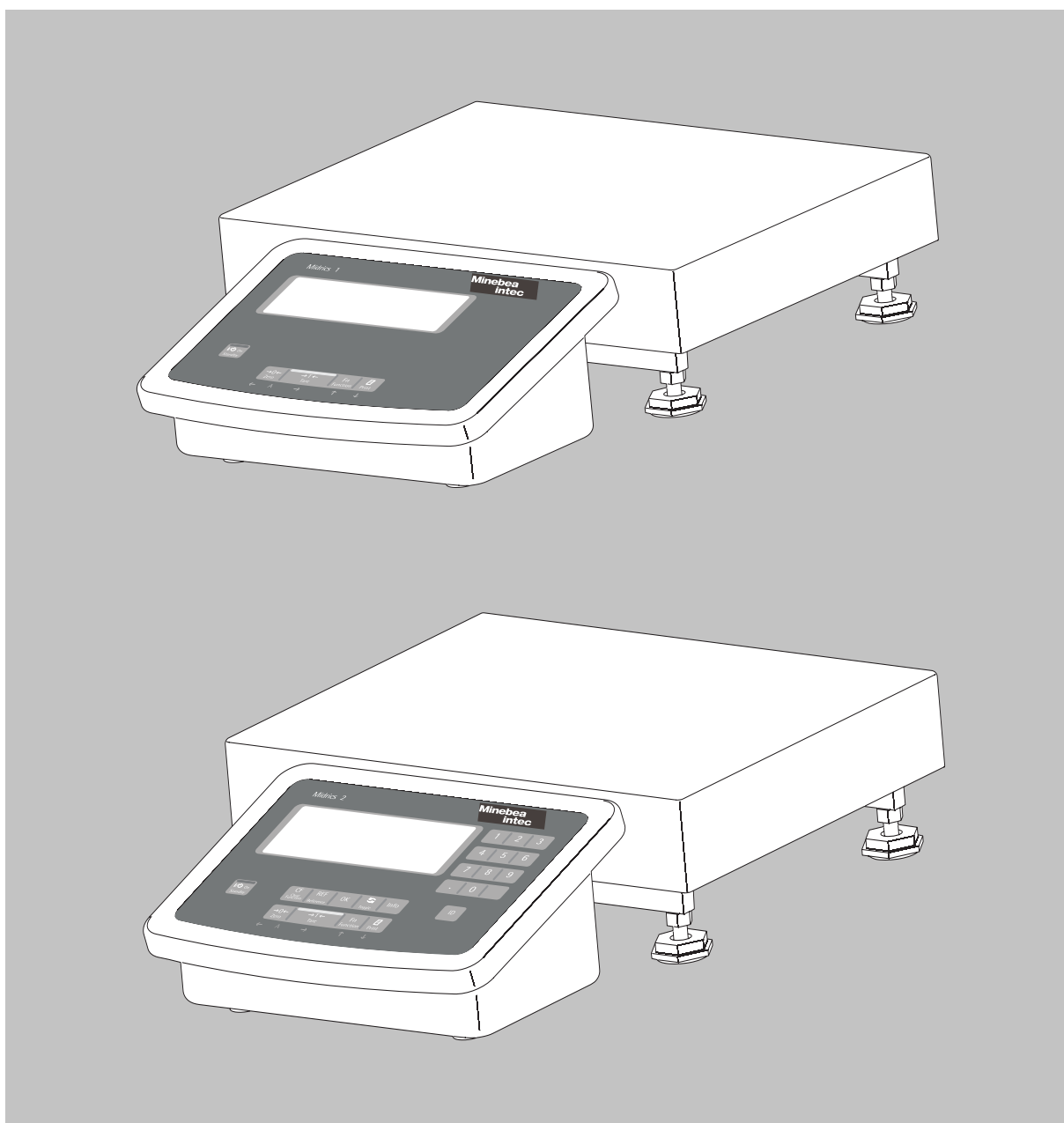


## Operating Instructions

# Minebea Intec Midrics<sup>®</sup> 1 | Midrics<sup>®</sup> 2

Models MW1 | MW2 Complete Scales



## 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
- Automatic printout when the scale is loaded for the first time
- 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

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## 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 Minebea Intec equipment, including connection of cables or equipment not supplied by Minebea Intec.
- Contact Minebea Intec 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 one of the security seals is destroyed on devices which have undergone a conformity assessment, compliance with the national legislation and regulations must always be ensured.  
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: 20°C to +40°C (+68°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:

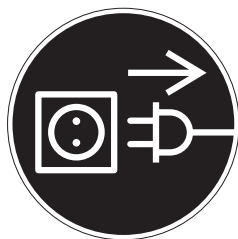
- Heat (heater or direct sunlight)
- Drafts from open windows or doors
- Excessive vibration during weighing
- Excessive moisture

### 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 Minebea Intec 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:

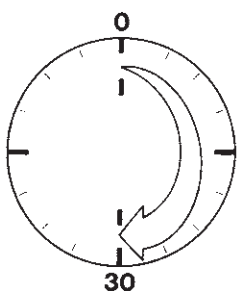
"[...]However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference 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.

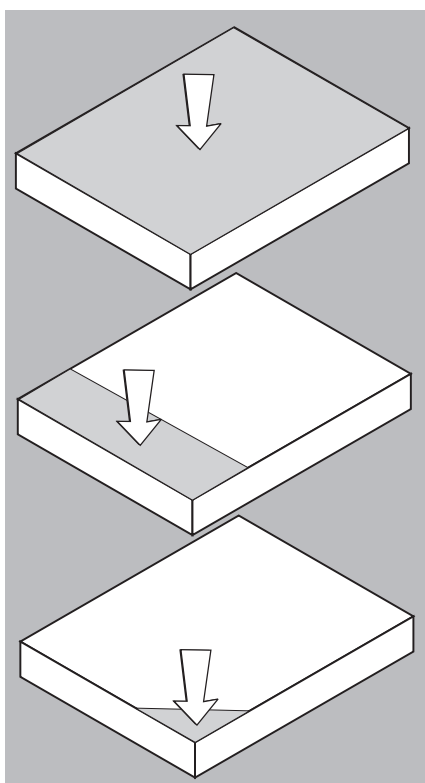
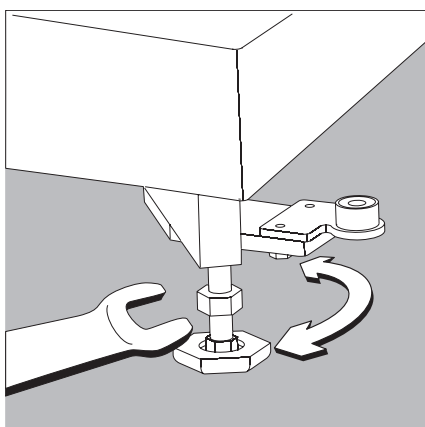
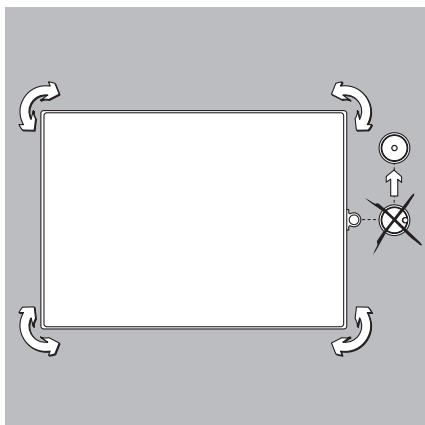


### Warmup Time

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.



## Getting Started

### Leveling the Weighing Platform (only for models which have undergone a conformity assessment)

#### 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.

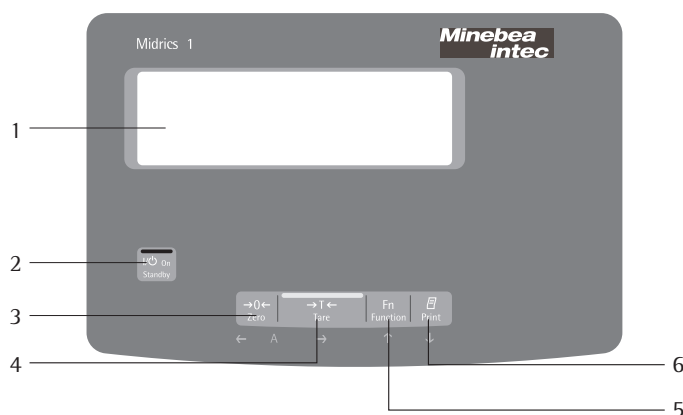
The maximum loading capacities of the weighing platforms in this series are listed in the table below, and depend on the position of the load on the platform:

| 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

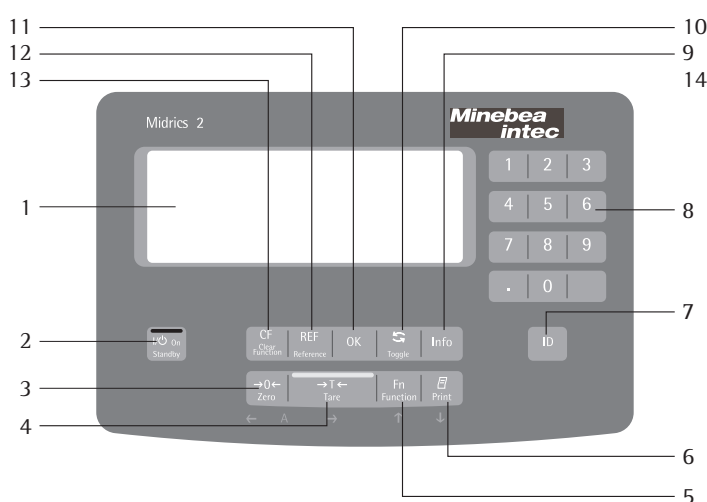
Midrics 1



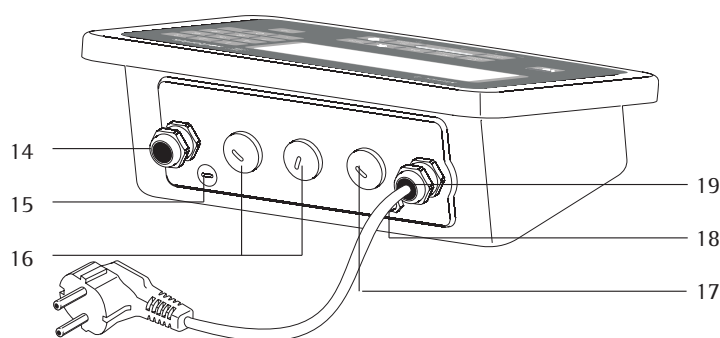
Display and Keypad

- 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)

Midrics 2



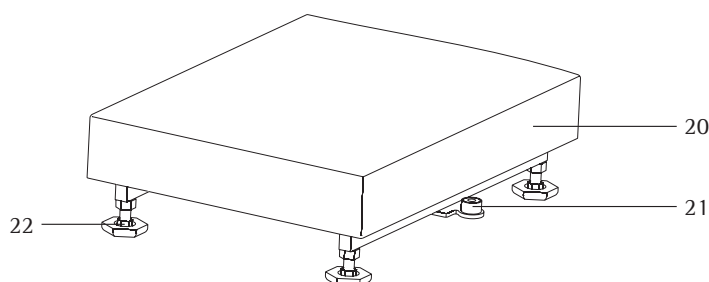
Midrics display and control unit



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

Midrics weighing platform



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.

- On/standby (in standby mode, OFF is displayed).
- Zero the scale
  - Cancel calibration/adjustment
- Tare the scale
- Toggle between 1<sup>st</sup> and 2<sup>nd</sup> 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 key for entering product information

Midrics 2 only:  
 View application data or manual tare values, depending on the key pressed subsequently (e.g., )

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

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

Midrics 2 only:  
 Modify a reference value

Midrics 2 only:  
 Quit an application or delete an input character

Midrics 2 only:  
, , ...   
Enter numbers, letters and other characters

### Numeric Input Through the Keypad (Midrics 2 only)

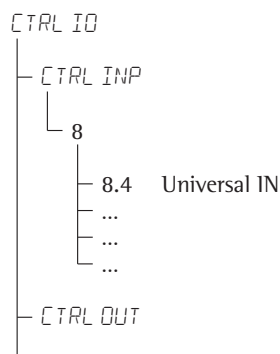
- To enter numbers (one digit at a time):  
Press **[0]**, **[1]**, **[2]** ... **[9]**
- To save input:  
press the required key (e.g., **[→T←]**  
to save manual tare input)
- To delete a digit:  
Press **[CF]**

### 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

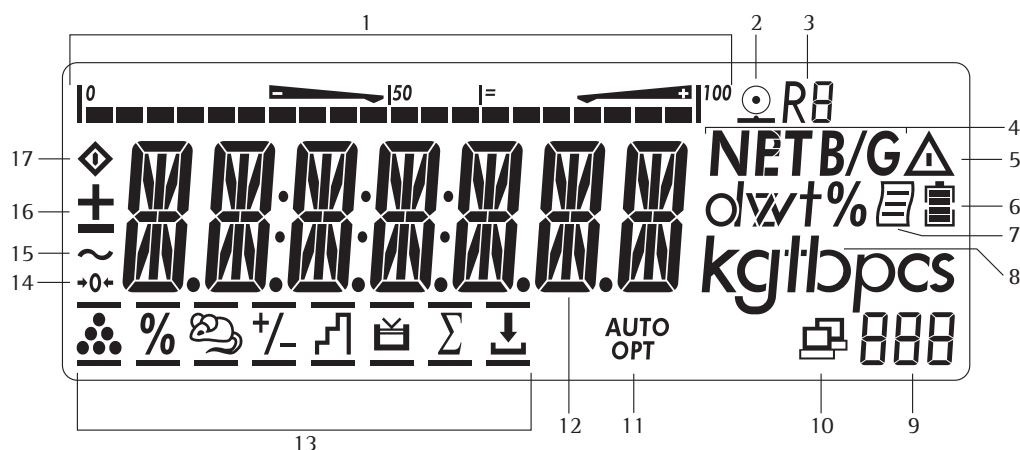
### Input Through the Digital Input Port

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
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

Only for models which have undergone a conformity assessment:

- 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,  $\square$  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)

*G/G* Gross value  
(net value plus tare)

**Data in tare memory, calculated values, designation of the active weighing platform**

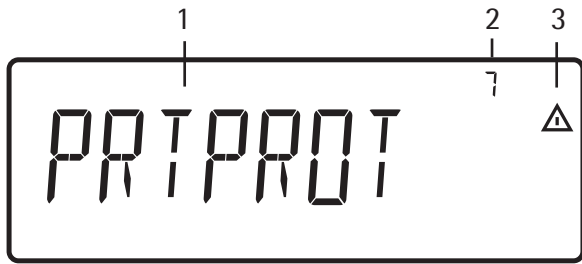
*PT* Identification of manual tare input when viewing tare information

**Saving Data in Weighing Mode**

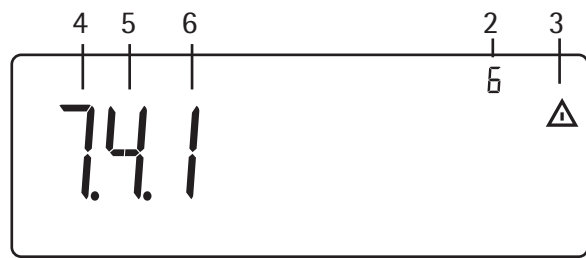
All of the application parameters saved (e.g., reference values) remain in memory and are still available after

- 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)

## Operating Design



Display of menu settings: Text menu (example)



Display of menu settings: Numeric menu (example)

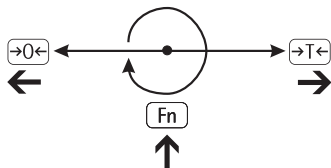
### Operating Menu Navigation

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

#### Opening the Menu

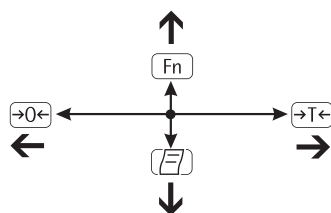
Press the **[I/O]** key to switch the Midrics off and then on again; while all segments are displayed, press the **[T←]** key briefly.

#### 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)
- [E]** 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)
- [E]**
  - 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. configuration of the print log)
- 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 10 !*) 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:

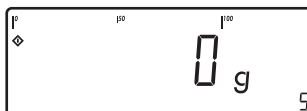
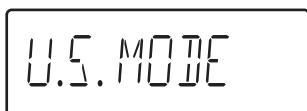
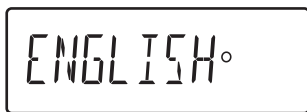
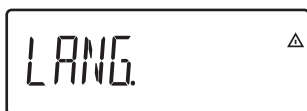
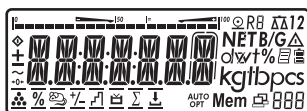
- Open the operating menu and press the  key

Scope of printout:

Depends on the active menu level  
Setting the Language

## Setting the Language

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



Switch on the scale

While all segments are lit, press the  key

The first item in the main menu is shown: *APPL*

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

Select *LANG.* to open the submenu for setting the language

The currently active language setting is shown

Press  repeatedly until *U.S. MODE* is displayed

Confirm this menu item

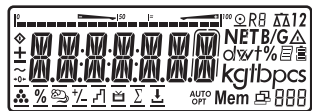
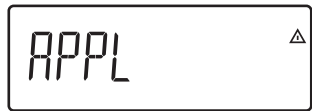
Exit this menu level and configure other settings as desired, or

Exit the operating menu

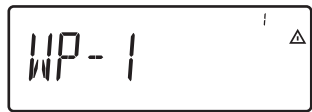
## Entering or Changing the Password

### Example:

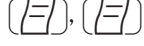
Assign a password (in this example, *AB2*) to protect the application program settings *APPL* and the device parameters *SETUP* from unauthorized changes

1. Switch on the scale  
  

2. While all segments are lit, press the  key  


The first item in the main menu is shown: *APPL*
3. Select the *SETUP* menu item (press  repeatedly until *SETUP* is displayed)  
  

4. Open the *SETUP* menu  
  

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

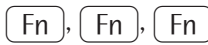
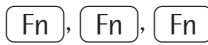
6. Open the *PASSWORD* menu  
  

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

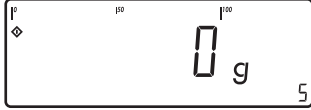
8. Save the character  
  

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

10. Save the character  
  

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

12. Save the password  
  

13. Exit this menu level to configure other menu settings, or
14. Exit the operating menu (press and hold the  key)  
  


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

## Operating Menu Overview

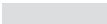
You can configure the Midrics to meet individual requirements by entering user data and setting selected parameters in the operating menu.

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

 = Setting/function available on Midrics 2 only

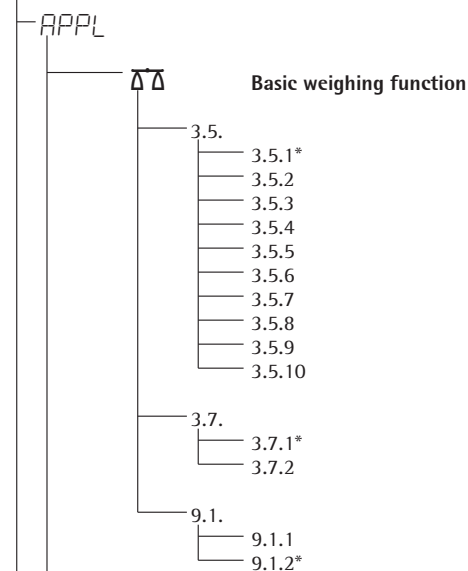
| 1 <sup>st</sup> level display | 2 <sup>nd</sup> level display                                                     | Function                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Menu                          |                                                                                   |                                                                                                                    |
| APPL                          |                                                                                   | Select and configure application programs                                                                          |
|                               |  | Basic weighing function                                                                                            |
|                               |  | Counting                                                                                                           |
|                               |  | Neutral Measurement                                                                                                |
|                               |  | Averaging (animal weighing)                                                                                        |
|                               |  | Checkweighing                                                                                                      |
|                               |  | Classification                                                                                                     |
|                               |  | Weighing in percent                                                                                                |
|                               |  | Net-total formulation                                                                                              |
|                               |  | Totalizing                                                                                                         |
| FN-KEY                        |                                                                                   | Define the function of the  key |
|                               | OFF                                                                               | No function                                                                                                        |
|                               | GROSS/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                                                                    |
|                               | 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                                                                                                            |
|                               | ESPAÑOL                                                                           | Spanish                                                                                                            |

## Operating Menu

 = Setting/function available on Midrics 2 only

\* Factory setting

Menu



## Application Programs

Minimum load for automatic taring and automatic printing

1 digit  
2 digits  
5 digits  
10 digits  
20 digits  
50 digits  
100 digits  
200 digits  
500 digits  
1000 digits

Automatic taring: first weight tared

Off  
On

Factory settings for all application programs

Yes  
No

### Counting

Minimum load for automatic taring and automatic printing

Minimum load for initialization

1 digit  
2 digits  
5 digits  
10 digits  
20 digits  
50 digits  
100 digits  
200 digits  
500 digits  
1000 digits

Automatic taring: first weight tared

Off  
On

Start application and load most recent application data when the Midrics is switched on

Automatic (on)  
Manual (off)

Resolution for calculation of reference value

Display resolution  
Display resolution + 1 decimal place  
Display resolution + 2 decimal places  
Internal resolution

Parameter for saving weight values ("storage parameter")

At stability  
At increased stability

Reference sample updating ("APW update")

Off  
Automatic

Factory settings for all application programs

Yes  
No

APPL

**Neutral Measurement**

- 3.5. Numeric menu as for Weighing Minimum load for automatic taring and automatic printing
- 3.6. Numeric menu as for Counting Minimum load for initialization
- 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. Numeric menu as for Weighing Minimum load for automatic taring and automatic printing
- 3.6. Numeric menu as for Counting Minimum load for automatic start
- 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
- 3.25. Tare function<sup>2)</sup>
  - 3.25.1\* Can add a preset tare if tare value is available; however no tare function possible
  - 3.25.2 When a preset tare is entered, the tare value is deleted; however tare function activation is possible

|      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPL |  | <ul style="list-style-type: none"> <li>3.21. <ul style="list-style-type: none"> <li>3.21.1*</li> <li>3.21.2</li> </ul> </li> <li>9.1. <ul style="list-style-type: none"> <li>9.1.1</li> <li>9.1.2*</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p><b>Averaging (Animal Weighing)</b></p> <p>Static display of result after load removed<br/> Display is static until unload threshold reached<br/> Display is static until <b>[CF]</b> is pressed</p> <p>Factory settings for all application programs<br/> Yes<br/> No</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|      |  | <ul style="list-style-type: none"> <li>3.5. <ul style="list-style-type: none"> <li>Numeric menu as for Weighing</li> </ul> </li> <li>3.6. <ul style="list-style-type: none"> <li>Numeric menu as for Counting</li> </ul> </li> <li>3.7. <ul style="list-style-type: none"> <li>3.7.1*</li> <li>3.7.2</li> </ul> </li> <li>3.8. <ul style="list-style-type: none"> <li>3.8.1</li> <li>3.8.2*</li> </ul> </li> <li>4.2. <ul style="list-style-type: none"> <li>4.2.1*</li> <li>4.2.2</li> </ul> </li> <li>4.3. <ul style="list-style-type: none"> <li>4.3.1*</li> <li>4.3.2</li> </ul> </li> <li>4.4. <ul style="list-style-type: none"> <li>4.4.1</li> <li>4.4.2</li> <li>4.4.3</li> <li>4.4.4*</li> <li>4.4.5</li> </ul> </li> <li>4.5. Parameter input <ul style="list-style-type: none"> <li>4.5.1*</li> <li>4.5.2</li> <li>4.5.3</li> <li>4.5.4</li> </ul> </li> <li>4.6. <ul style="list-style-type: none"> <li>4.6.1*</li> <li>4.6.2</li> <li>4.6.3</li> <li>4.6.4</li> </ul> </li> <li>4.7. <ul style="list-style-type: none"> <li>4.7.1*</li> <li>4.7.2</li> <li>4.7.3</li> </ul> </li> <li>9.1. <ul style="list-style-type: none"> <li>9.1.1</li> <li>9.1.2*</li> </ul> </li> </ul> | <p><b>Checkweighing</b></p> <p>Minimum load for automatic taring and automatic printing</p> <p>Minimum load for initialization</p> <p>Automatic taring: first weight tared<br/> Off<br/> On</p> <p>Start application and load most recent application data when the Midrics is switched on<br/> Automatic (on)<br/> Manual (off)</p> <p>Checkweighing range<br/> 30 to 170%<br/> 10% to infinity</p> <p>Activate control line for "Set" as:<br/> "Set" output<br/> Ready to operate (for process control systems)</p> <p>Activation of outputs<br/> Off<br/> Always active<br/> Active at stability<br/> Active within checkweighing range<br/> Active at stability within the checkweighing range</p> <p>Min, max, target<br/> Only target with percent limits<br/> Set point with free limits percent<br/> Set point; Min, Max value as relative weights to the set point</p> <p>Automatic printing<br/> Off<br/> On<br/> Only values within tolerance<br/> Only values outside tolerance</p> <p>Checkweighing toward zero<br/> Off<br/> On<br/> On</p> <p>Factory settings for all application programs<br/> Yes<br/> No</p> |
|      |  | <ul style="list-style-type: none"> <li>3.5. <ul style="list-style-type: none"> <li>Numeric menu as for Weighing</li> </ul> </li> <li>3.6. <ul style="list-style-type: none"> <li>Numeric menu as for Counting</li> </ul> </li> <li>3.7. <ul style="list-style-type: none"> <li>3.7.1*</li> <li>3.7.2</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Classification</b></p> <p>Minimum load for automatic taring and automatic printing</p> <p>Minimum load for initialization</p> <p>Automatic taring: first weight tared<br/> Off<br/> On</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

APPL



- 3.8.
  - 3.8.1
  - 3.8.2\*
- 4.3.
  - 4.3.1\*
  - 4.3.2
- 4.7.
  - 4.7.1
  - 4.7.2
  - 4.7.3\*
- 4.8.
  - 4.8.1\*
  - 4.8.2
- 4.9.
  - 4.9.1\*
  - 4.9.2
- 4.10.
  - 4.10.1\*
  - 4.10.2
- 9.1.
  - 9.1.1
  - 9.1.2\*

**Classification**

Start application and load most recent application data when the Midrics is switched on  
Automatic (on)  
Manual (off)

Activate control line for "Set" as:  
"Set" output  
Ready to operate (for process control systems)

Activation of outputs  
Off  
Always active  
Active at stability

Number of classes  
3 classes  
5 classes

Parameter input  
Weight values  
Percentage

Automatic printing  
Off  
On

Factory settings for all application programs  
Yes  
No



- 3.5.
  - Numeric menu as for Weighing
- 3.6.
  - Numeric menu as for Counting
- 3.7.
  - 3.7.1\*
  - 3.7.2
- 3.8.
  - 3.8.1
  - 3.8.2\*
- 3.9.
  - 3.9.1\*
  - 3.9.2
  - 3.9.3
  - 3.9.4
- 3.10.
  - 3.10.1\*
  - 3.10.2
  - 3.10.3
  - 3.10.4
- 3.11.
  - 3.11.1\*
  - 3.11.2
- 3.15.
  - 3.15.1\*
  - 3.15.2
- 9.1.
  - 9.1.1
  - 9.1.2\*
- 3.25.
  - 3.25.1 \*
  - 3.25.2

**Weighing in Percent**

Minimum load for automatic taring and automatic printing

Minimum load for initialization

Automatic taring: first weight tared  
Off  
On

Start application and load most recent application data when the Midrics is switched on  
Automatic (on)  
Manual (off)

Resolution for calculation of reference value  
Display resolution  
Display resolution + 1 decimal place  
Display resolution + 2 decimal places  
Internal resolution

Decimal places in displayed result  
None  
1 decimal place  
2 decimal places  
3 decimal places

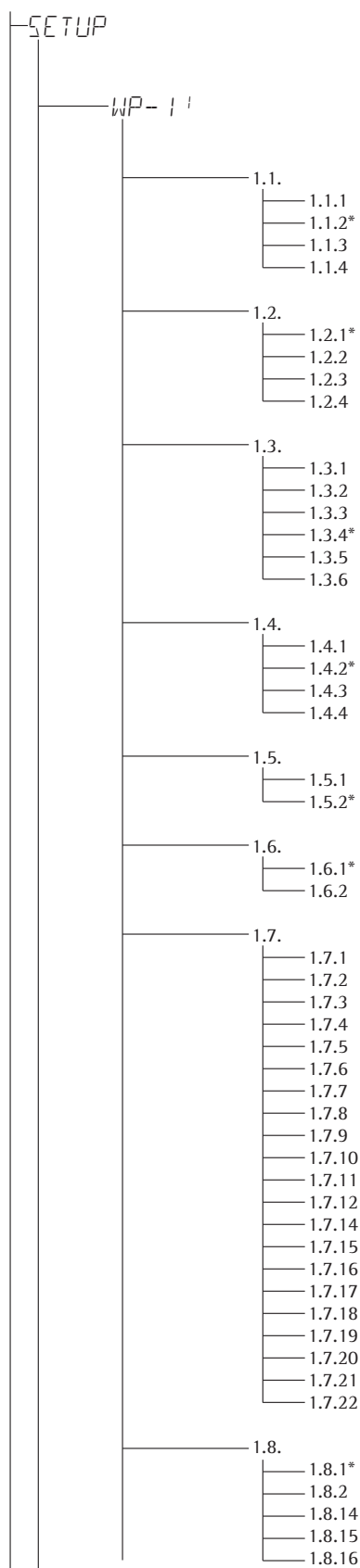
Parameter for saving weight values  
At stability  
At increased stability

Display  
Residue  
Loss

Factory settings for all application programs  
Yes  
No

Tare function<sup>2)</sup>  
Can add a preset tare if tare value is available; however no tare function possible  
When a preset tare is entered, the tare value is deleted; however tare function activation is possible

|                              |                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------|
| APPL                         |                                                                                                 |
| ↓                            | Net-total Formulation (2 <sup>nd</sup> 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 <b>OK</b> is pressed           |
| 3.17.3                       | Generate printout with complete standard configuration only the first time <b>OK</b> 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 <b>OK</b> is pressed                              |
| 3.17.3                       | Components of transaction printed when <b>OK</b> is pressed                                     |
| 9.1.                         | Factory settings for all application programs                                                   |
| 9.1.1                        | Yes                                                                                             |
| 9.1.2*                       | No                                                                                              |
| FN-KEY                       |                                                                                                 |
| OFF *                        | <b>Fn</b> Key Assignment                                                                        |
| GROSS NET                    | No <b>Fn</b> key function                                                                       |
| 2. UNIT                      | Gross/net toggling                                                                              |
| RES 10                       | Show 2 <sup>nd</sup> Weight unit                                                                |
|                              | 10-fold increased resolution Display: max. 5 seconds                                            |



## Device Parameters

Password prompt displayed if a password is configured

### Weighing platform 1

(Display designation of this menu level: 1)

#### Adapt weighing instrument to ambient conditions (adapt filter)

Very stable conditions  
Stable conditions  
Unstable conditions  
Very unstable conditions

#### Application filter

Final readout  
Filling mode  
Low filtering  
Without filtering

#### Stability range

4 digit  
1 digit  
1 digit<sup>1)</sup>  
2 digits<sup>1)</sup>  
4 digits<sup>1)</sup>  
8 digits<sup>1)</sup>

#### Stability symbol delay

No delay  
Short delay  
Average delay  
Long delay

#### Taring<sup>1)</sup>

Without stability  
After stability

#### Auto zero

On  
Off

#### Weight Unit 1<sup>2)</sup>

Grams / o  
Grams / g  
Kilograms / kg  
Carats / ct<sup>1)</sup>  
Pounds / lb<sup>1)</sup>  
Ounces / oz<sup>1)</sup>  
Troy ounces / ozt<sup>1)</sup>  
Hong Kong tael / tlh<sup>1)</sup>  
Singapore tael / tlc<sup>1)</sup>  
Taiwanese tael / tlt<sup>1)</sup>  
Grains / GN<sup>1)</sup>  
Pennyweights / dwt<sup>1)</sup>  
Parts per pound / lb<sup>1)</sup>  
Chinese tael / tlc<sup>1)</sup>  
Mommies / mom<sup>1)</sup>  
Austrian carats / k<sup>1)</sup>  
Tola / tol<sup>1)</sup>  
Baht / bat<sup>1)</sup>  
Mesghal / MS<sup>1)</sup>  
Tons / t  
Pounds: ounces<sup>1)</sup>

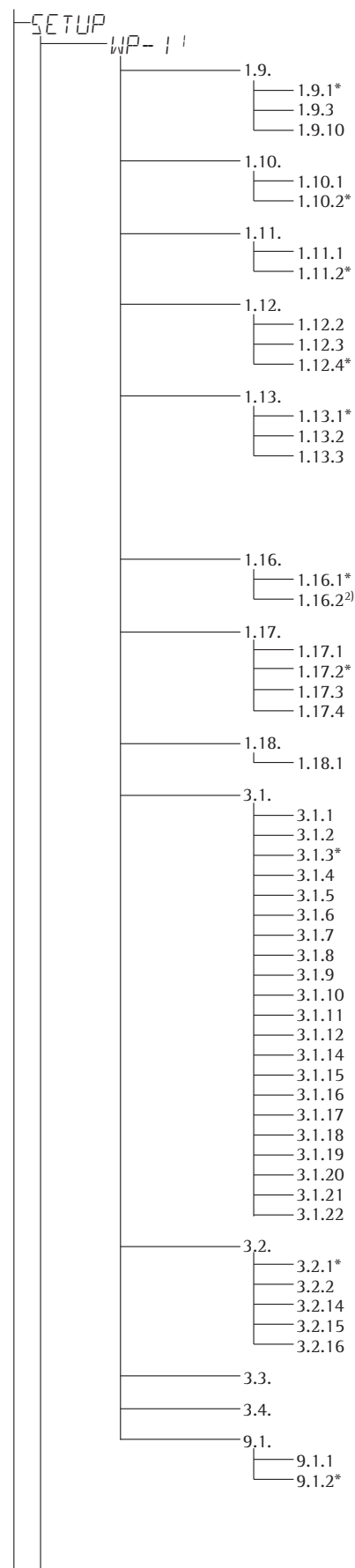
#### Display accuracy 1<sup>1)</sup>

All digits  
Reduced by 1 decimal place for load change  
10-fold increased resolution  
Resolution increased by 2 scale intervals (e.g., 5 g to 1 g)  
Resolution increased by 1 scale interval  
(e.g., from 2 g to 1 g or from 10 g to 5 g)

\* = Factory Setting

<sup>1)</sup> Setting is not changed for devices which have undergone a conformity assessment

<sup>2)</sup> Depends on weighing platform model

**Calibration and adjustment**

External calibration/adjustment; default weight

External calibration/adjustment; weight can be selected under menu item 1.18.1

No function when you press and hold  $\rightarrow T \leftarrow$  > 2 sec

**Calibration/adjustment sequence**

Calibration with automatic adjustment

Calibration with adjustment triggered manually

**Zero-setting range**

1 percent/max. cap.

2 percent/max.cap.

**Initial zero-setting range**

2 percent/max. cap.

5 percent/max.cap. (setting depends on model)

10 percent/max.cap.

**Tare/zero at power on**

On

Off, load previous tare value

Only zero at power on

**External calibration/adjustment<sup>1)</sup>**

Accessible

Blocked

**Calibration weight unit**

Grams

Kilograms

Tons

Pounds<sup>1)</sup>

**Enter calibration weight**

External user-defined weight (enter value; e.g.: 10,000 kg)

**Weight unit 2<sup>3)</sup>**

Grams / o

Grams / g

Kilograms / kg

Carats / ct<sup>1)</sup>

Pounds / lb<sup>1)</sup>

Ounces / oz<sup>1)</sup>

Troy ounces / ozt<sup>1)</sup>

Hong Kong tael / tlh<sup>1)</sup>

Singapore tael / tls<sup>1)</sup>

Taiwanese tael / tlt<sup>1)</sup>

Grains / GN<sup>1)</sup>

Pennyweights / dwt<sup>1)</sup>

Parts per pound / lb<sup>1)</sup>

Chinese tael / tlc<sup>1)</sup>

Mommes / mom<sup>1)</sup>

Austrian carats / k<sup>1)</sup>

Tola / tol<sup>1)</sup>

Baht / bat<sup>1)</sup>

Mesghal / MS<sup>1)</sup>

Tons / t

Pounds:ounces<sup>1)</sup>

**Display accuracy 2<sup>1)</sup>**

All digits

Reduced by 1 decimal place for load change

10-fold increased resolution

Resolution increased by 2 scale intervals (e.g., 5 g to 1 g)

Resolution increased by 1 scale interval (e.g., 2 g to 1 g or from 10 g to 5 g)

**Weight unit 3<sup>3)</sup> (settings as for 3.1, "Weight unit 2")****Display accuracy<sup>3)</sup> (settings as for 3.2, "Display accuracy 2")****Restore factory settings in WP1 numeric menu**

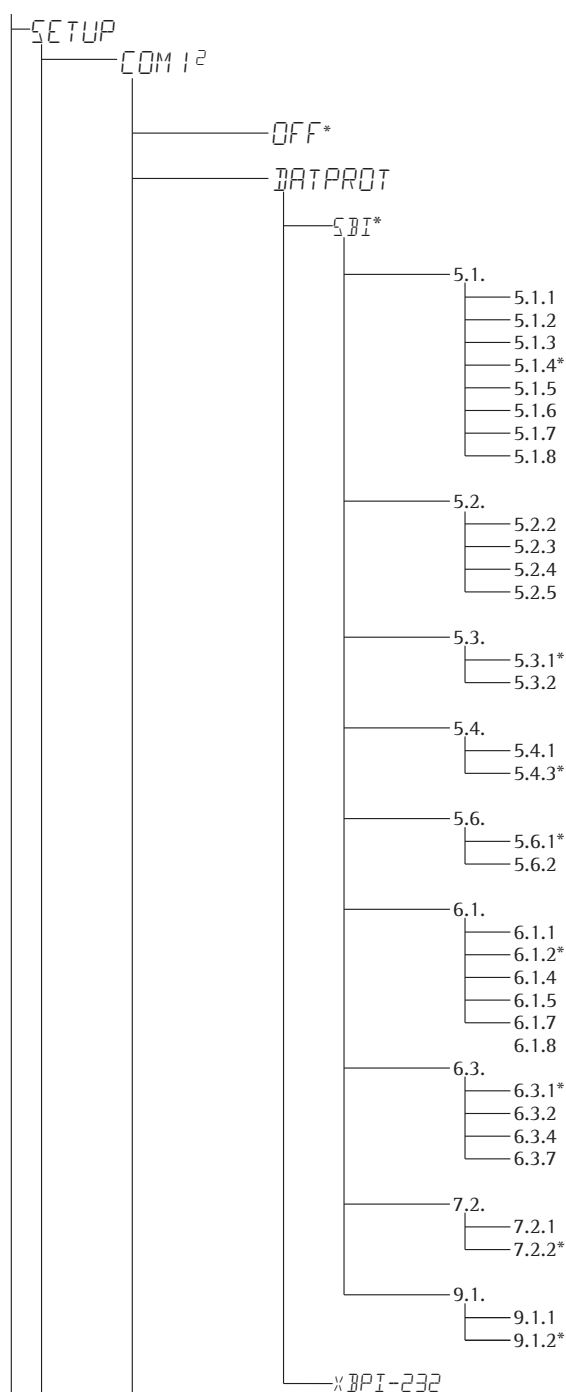
Yes

No

<sup>1)</sup> = Setting is not changed for devices which have undergone a conformity assessment

<sup>2)</sup> = Factory setting for devices which have undergone a conformity assessment

<sup>3)</sup> = 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<sup>2)</sup>  
 Odd  
 Even  
 None<sup>3)</sup>

**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)  
 Protocol without stability for computer (PC)

**Time-dependent automatic data output**

1 display update  
 2 display updates  
 10 display updates  
 100 display updates

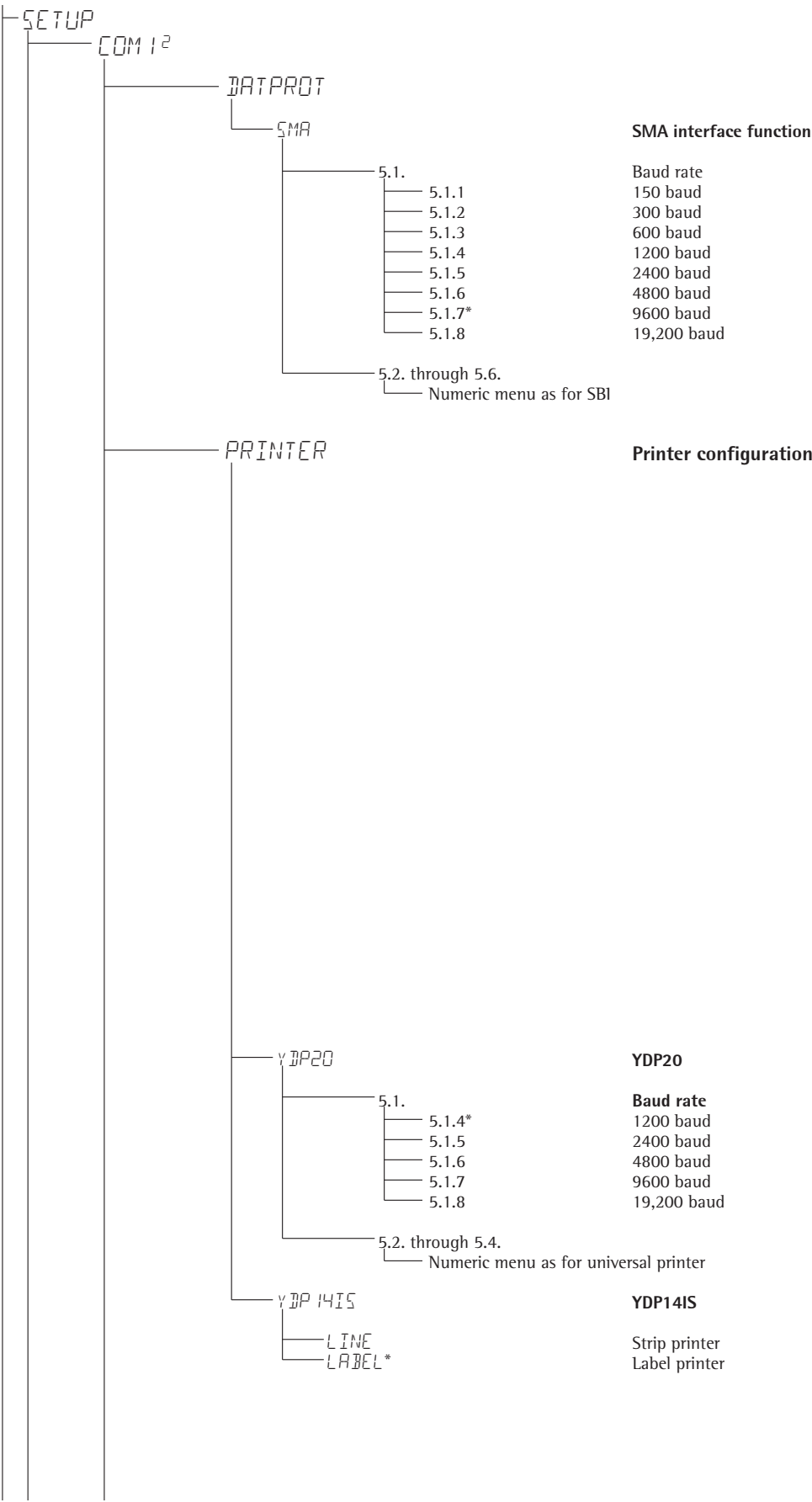
**Data output: line format for printout**

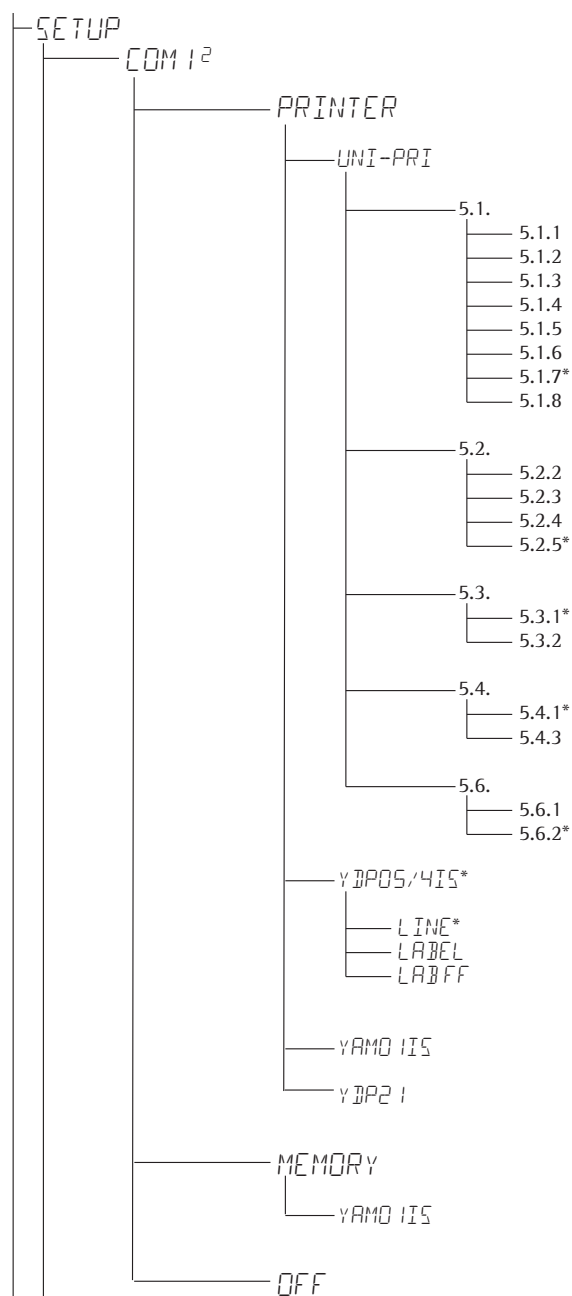
For raw data: 16 characters  
 For other applications: 22 characters

**Restore factory settings in numeric menu COM1: SBI**

Yes  
 No

**XBPI-232**<sup>1)</sup> Menu depends on weighing platform model<sup>2)</sup> not with setting 5.6.2 (8 bits)<sup>3)</sup> not with setting 5.6.1 (7 bits)



**Universal interface****Baud rate**

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

**Parity**

Space<sup>1)</sup>  
 Odd  
 Even  
 None<sup>2)</sup>

**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

**YDP05/04IS**

Strip printer  
 Label printer  
 Label printer with manual feed

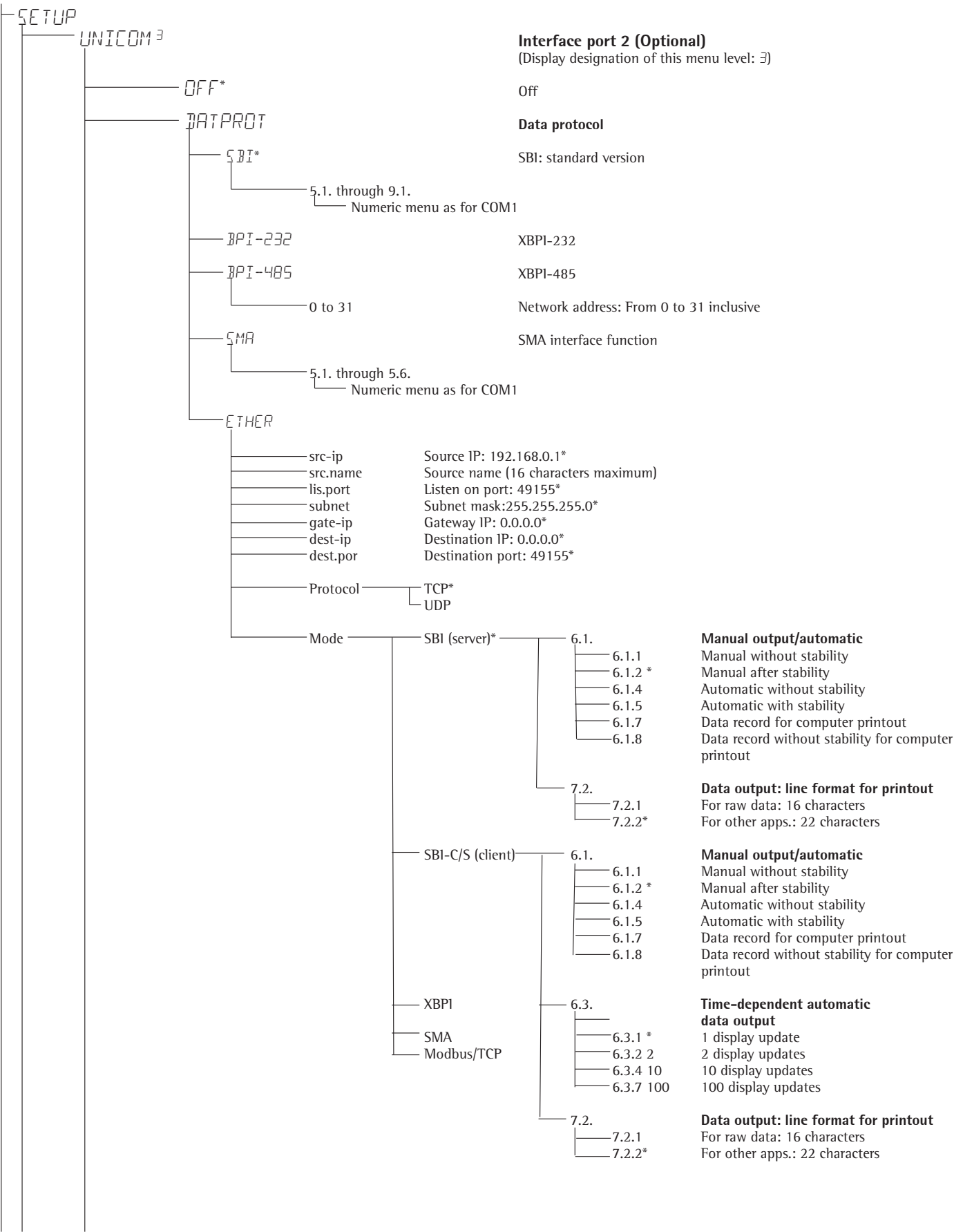
**YAM01IS as electronic memory for print data****YDP21****Verifiable data memory****YAM01IS external data memory**

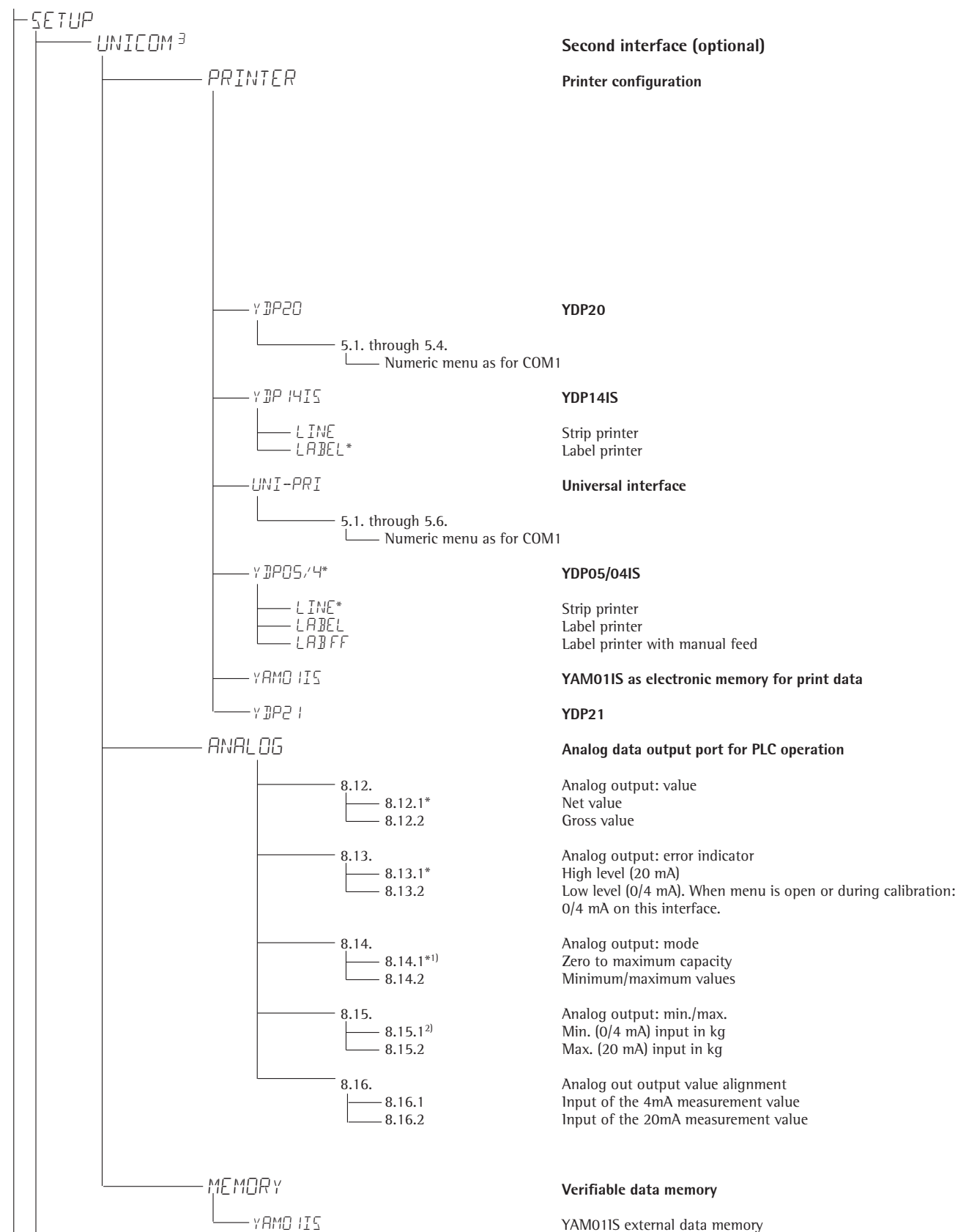
Disabled

\* = factory setting

<sup>1)</sup> not with setting 5.6.2 (8 bit)

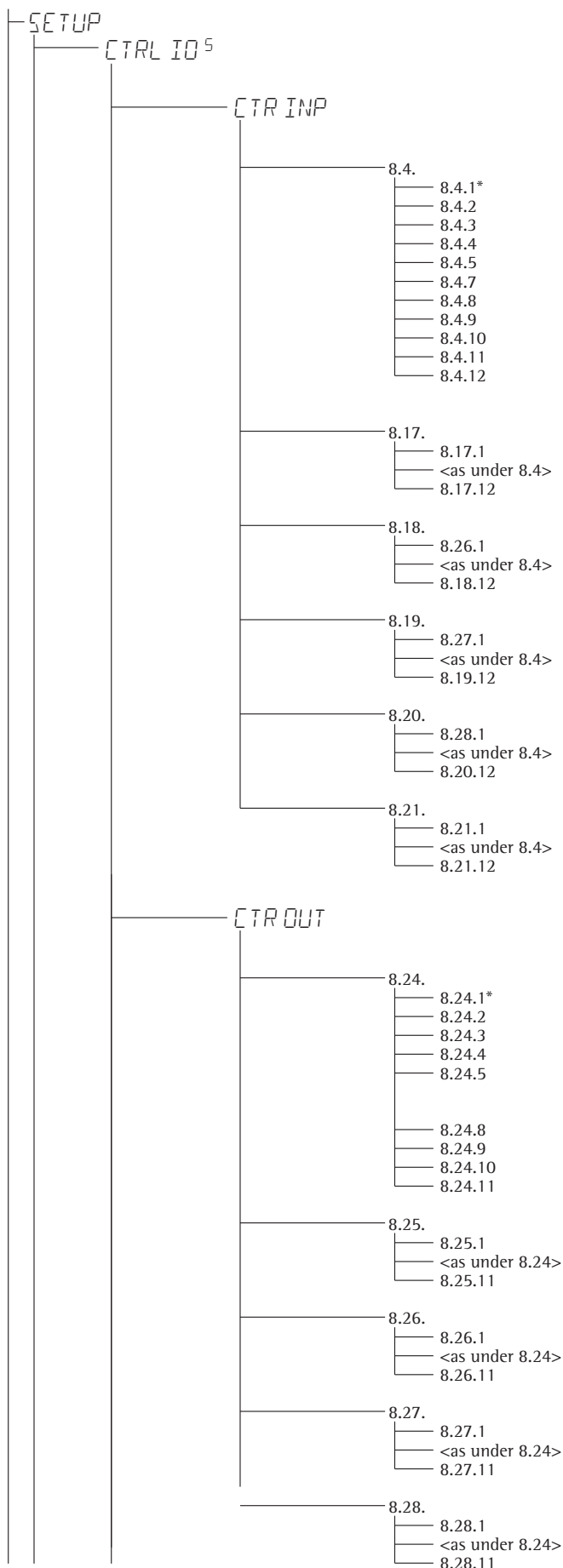
<sup>2)</sup> not with setting 5.6.1 (7 bits)





\* = Factory setting

<sup>2)</sup> not with setting 8.14.1

**Control inputs/outputs**

(Display designation of this menu level: 5)

**Control inputs****For YD001M-232C0; Option A1****Function for external control inputs (TTL)**

Trigger key function  
 Trigger key (> 2 sec) function  
 Trigger key function  
 Trigger key (> 2 sec) function  
 Trigger key function  
 Trigger key function  
 Combined zero/tare function  
 Trigger key function  
 Trigger key function  
 Trigger key function

Midrics 2 only

Midrics 2 only

Midrics 2 only

**For YD001M-I0; Option A5****External input 1**

Trigger key function  
 <as under 8.4>  
 Trigger key function

Midrics 2 only

**External input 2**

Trigger key function  
 <as under 8.4>  
 Trigger key function

Midrics 2 only

**External input 3**

Trigger key function  
 <as under 8.4>  
 Trigger key function

Midrics 2 only

**External input 4**

Trigger key function  
 <as under 8.4>  
 Trigger key function

Midrics 2 only

**External input 5**

Trigger key function  
 <as under 8.4>  
 Trigger key function

Midrics 2 only

**Control outputs****For YD001M-I0; 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

Lighter  
 Equal  
 Heavier  
 Set

Midrics 2 only

Midrics 2 only

Midrics 2 only

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

— PRTPROT <sup>1)</sup>

7.4.

- 7.4.1 (blank)
- 7.4.2 (blank)
- 7.4.3 (ID 1)
- 7.4.4 (ID 2)
- 7.4.5 (ID 3)
- 7.4.6 (ID 4)

### Printouts

(Display designation of this menu level: <sup>1)</sup>)

#### Header input

Header line 1 (max. 20 characters); example: "MEYER'S"  
Header line 2 (max. 20 characters); example: "STEEL"  
ID code name for ID 1 (max. 40 characters)  
ID code name for ID 2 (max. 40 characters)  
ID code name for ID 3 (max. 40 characters)  
ID code name for ID 4 (max. 40 characters)

7.5.

- 7.5.1 \*
- 7.5.2

#### COM1 interface

1 printout  
2 printouts

7.6.

- 7.6.1 \*
- 7.6.2

#### Optional "UniCOM" interface

1 printout  
2 printouts

7.7.

- 7.7.1 \* <sup>1)</sup>
- 7.7.2 \* <sup>1)</sup>
- 7.7.3 \* <sup>1)</sup>
- 7.7.4 \* <sup>1)</sup>
- 7.7.5 \* <sup>1)</sup>
- 7.7.6 \* <sup>1)</sup>
- 7.7.7 <sup>1)</sup>
- 7.7.8 <sup>1)</sup>

#### COM1 interface:

Configure standard printout (press  $\left[\frac{\square}{\square}\right]$ ,  $\left[\text{OK}\right]$ )  
Header lines 1, 2 (content: see menu codes 7.4.x)  
Date and time  
Initialization data for the application program  
Weighing instrument designation  
Result from the application program  
ID codes 1 and 2  
2 additional blank lines  
3 additional blank lines

7.8.

- 7.8.1 \* <sup>1)</sup>
- 7.8.2 \* <sup>1)</sup>
- 7.8.3 \* <sup>1)</sup>
- 7.8.4 \* <sup>1)</sup>
- 7.8.5 \* <sup>1)</sup>
- 7.8.6 \* <sup>1)</sup>
- 7.8.7 <sup>1)</sup>
- 7.8.8 <sup>1)</sup>

#### Optional "UniCOM" interface

Configure standard printout (press  $\left[\frac{\square}{\square}\right]$ ,  $\left[\text{OK}\right]$ )  
Header lines 1, 2 (content: see menu codes 7.4.x)  
Date and time  
Initialization data for the application program  
Weighing instrument designation  
Result from the application program  
ID codes 1 and 2  
2 additional blank lines  
3 additional blank lines

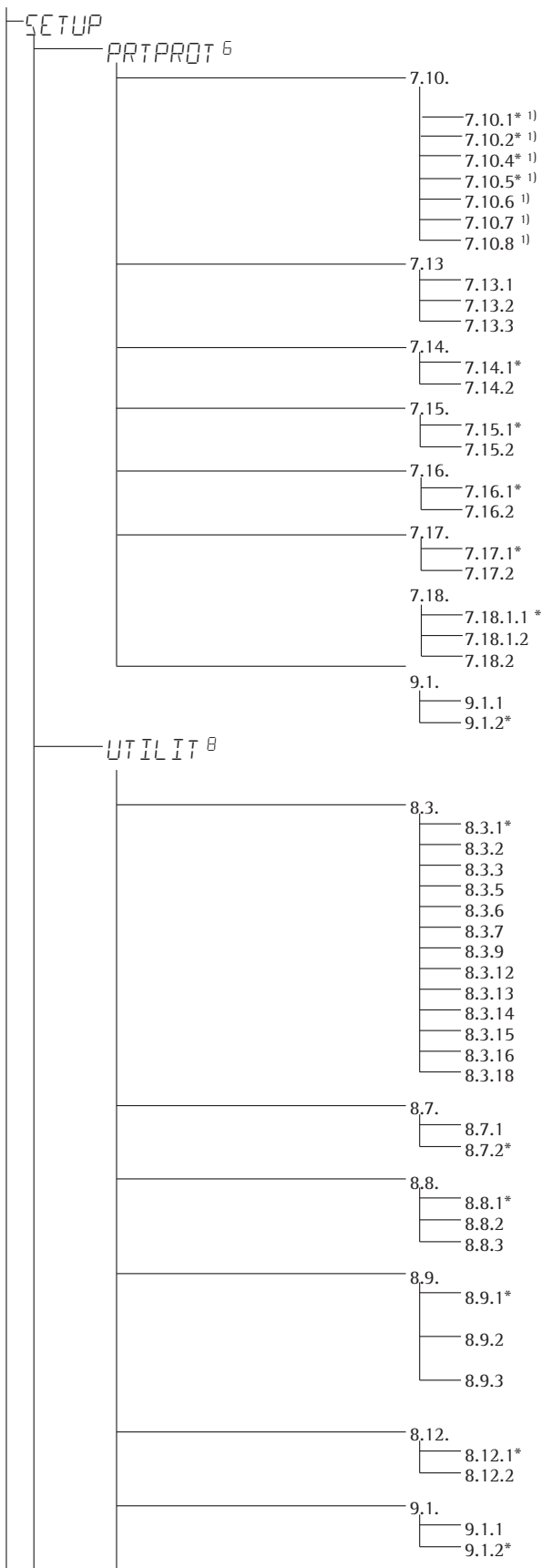
7.9.

- 7.9.1 \* <sup>1)</sup>
- 7.9.2 \* <sup>1)</sup>
- 7.9.4 \* <sup>1)</sup>
- 7.9.5 \* <sup>1)</sup>
- 7.9.6 <sup>1)</sup>
- 7.9.7 <sup>1)</sup>
- 7.9.8 <sup>1)</sup>

#### COM1 interface:

Print results when  $\left[\text{CF}\right]$  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  
ID codes 1 to 4  
2 additional blank lines  
3 additional blank lines

<sup>1)</sup> 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

ID codes 1 to 4

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

**Printout of Alibi and product data memory**

Print all data records

Print the number of data records selected under 7.18.2

Number selection: 1\* to 255

**Restore factory settings of the numeric menu for data protocol**

Yes

No

**Operation**

(Display designation of this menu level: <sup>8</sup>)

**Keys**

All available

All blocked

Keys **[0]**, **[1]**, **[2]**, etc.

blocked

Midrics 2 only

**[←0←]** key

blocked

**[←T←]** key

blocked

**[Fn]** key

block

**[E]** 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 <sup>2)</sup> is displayed for 1 minute)

After 2 + 2 minutes not in use

(after 2 min.: warning <sup>2)</sup> is displayed for 2 minutes)

After 5 + 5 minutes not in use

(after 5 min.: warning <sup>2)</sup> is displayed for 5 minutes)

**Show geographical data before calibration**

No

Yes

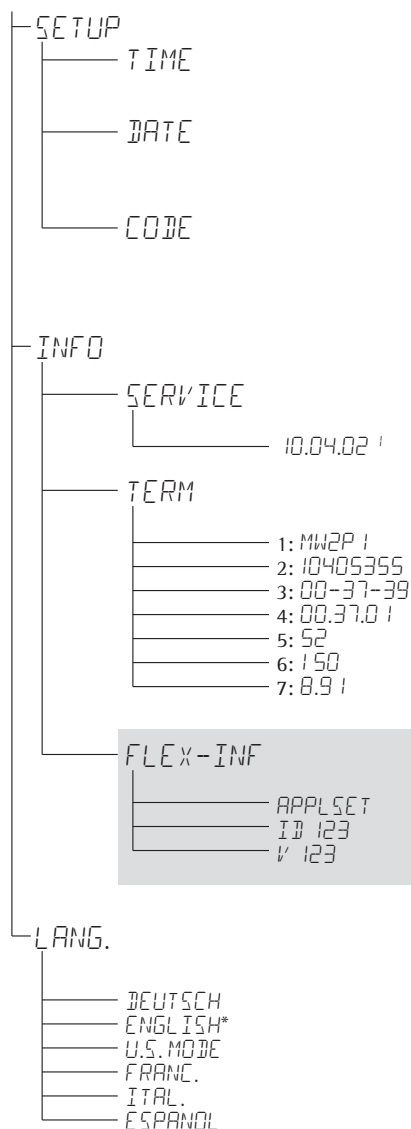
**Restore factory settings of the numeric operating menu**

Yes

No

<sup>1)</sup> More than one can be selected

<sup>2)</sup> 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) <sup>1)</sup>

Geographical altitude (in meters) <sup>1)</sup>

Acceleration of gravity m/s<sup>2</sup> <sup>1)</sup>

**Flex Print**

File name<sup>2)</sup>

ID<sup>2)</sup>

Version<sup>2)</sup>

**Language for calibration/adjustment and GMP printouts**

German

English

English with U.S. date/time format

French

Italian

Spanish

\* Factory setting

<sup>1)</sup> Output: either latitude and altitude or acceleration of gravity (depends on the input before verification)

<sup>2)</sup> These three parameters are shown for each file loaded

## Operation

### Basic Weighing Function

#### Weighing $\Delta$

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  $\rightarrow 0 \leftarrow$
- Store the weight on the platform as tare by pressing  $\rightarrow T \leftarrow$
- Midrics 2 only:
  - Use the numeric keys to enter a tare weight (press  $\rightarrow T \leftarrow$  to save)
- Tare container weight automatically
- Delete tare values by entering  $\boxed{0}$  (press  $\rightarrow T \leftarrow$  to save)
- Press  $\boxed{Fn}$  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  $\boxed{E}$
  - 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  $\boxed{I/O}$  and  $\boxed{SETUP}$
- 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

The evaluating device can be switched into Standby mode automatically.

#### Timer Mode

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

#### Settings

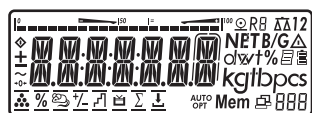
See the chapter entitled "Configuration."

### Quick ADU configuration

- Start with the indicator unplugged.
- Set the Menu Switch to the "OPEN" position.
- Plug the indicator in and, during the Display Test "88888888", press down the  $\rightarrow 0 \leftarrow$  key.
- The display will show "ADC-CON", followed by "S-CODE", and then the cursor will appear over a blank line.
- Enter the "SERVICE CODE" [202122] and press  $\rightarrow T \leftarrow$ .
- When the display shows "STAND." with a lower-case "s" in the top right-hand corner, press  $\rightarrow T \leftarrow$ .
- When the display shows "UNIT", press  $\rightarrow T \leftarrow$ .
- The display will show the current Unit of Measurement. (To change this, use the  $\boxed{Fn}$  key to select the required Unit of Measurement); press  $\rightarrow T \leftarrow$ .
- When the display shows "RANGES", press  $\rightarrow T \leftarrow$ .
- When the display shows "SINGLE", press  $\rightarrow T \leftarrow$ .
- When the display shows "MAX.", press  $\rightarrow T \leftarrow$ .
- Enter the Maximum Weight Value and press  $\rightarrow T \leftarrow$ .
- When the display shows "D", press  $\rightarrow T \leftarrow$ .
- Enter the Resolution and press  $\rightarrow T \leftarrow$ .
- When the display shows "Save", press  $\rightarrow T \leftarrow$ .
- If the display shows "NO", use the  $\boxed{Fn}$  key to select "YES" and press  $\rightarrow T \leftarrow$ . The display will show "BUSY" and then return to the weighing mode.
- Once set-up is complete, set the Menu Switch to the "Closed" position.

**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.

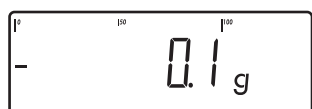


1. Switch on the scale

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



Display with tared scale and sample in container



Display with no load on scale

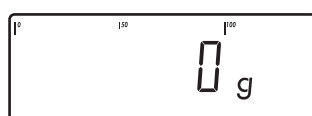


6. Toggle display; readout depends on your settings:

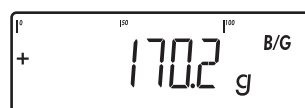
Gross weight (in this example, 50 g for container + 120.2 g substrate)



2. Zero the scale

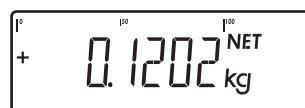


Display with no load on scale



or

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

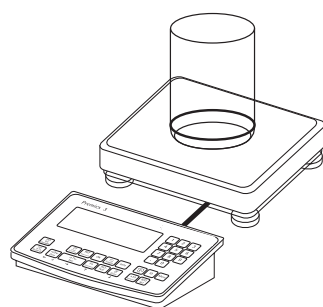
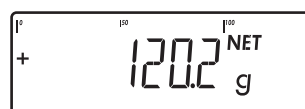


Weight displayed in second weight unit (in this example, kg)



or

Weight displayed with 10-fold increased resolution



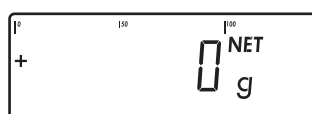
3. Place container on weighing platform



Container weight is displayed



4. Tare the scale



Display (NET) when tared with container



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

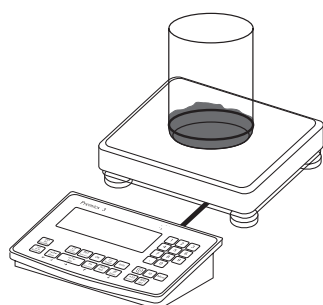


8. Print results

ACE HARDWARE  
GOETTINGEN  
24.02.2017 15:10

Date/time only optional

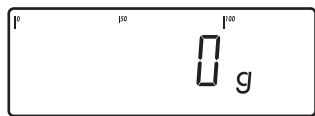
G# + 170.2 g  
T + 50.0 g  
N + 120.2 g



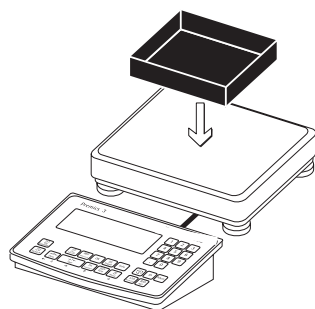
5. Place sample in container (in this example, 120.2 g)

**Example with Midrics 2**

Tare the scale by placing a container on the weighing platform



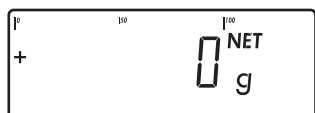
1. Switch on the scale  
The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press  $\rightarrow 0 \leftarrow$  to reset the unloaded weighing platform to zero at any time.



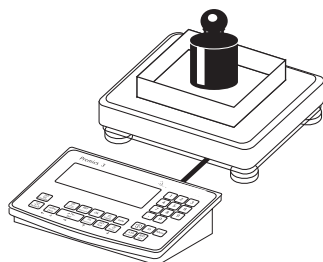
2. Place empty container on the platform



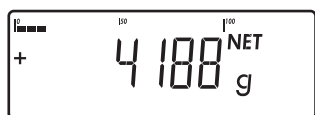
3. Tare the scale.  
Note: If the automatic tare function is active, you do not need to press  $\rightarrow T \leftarrow$  to tare the scale; the tare weight is stored automatically when you place the container on the platform.



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



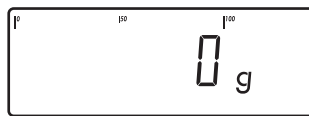
4. Place sample on the platform



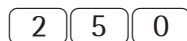
Wait until the weight unit symbol is displayed (indicating stability) and read the weight value

**Example with Midrics 2:**

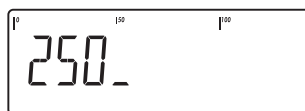
Enter the tare value using the keypad; print the results



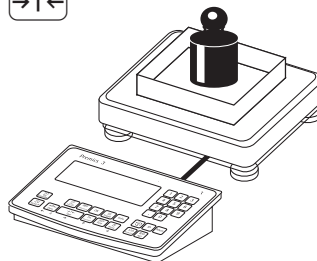
1. Switch on the scale  
The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press  $\rightarrow 0 \leftarrow$  to reset the unloaded weighing platform to zero at any time.



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



3. Save the tare weight.



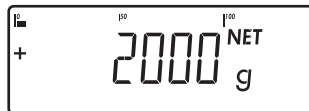
4. Place the sample (in this example, 2000 g) in its container on the scale.



Read the result



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).



6. Return to the previous display.



7. Print the results.

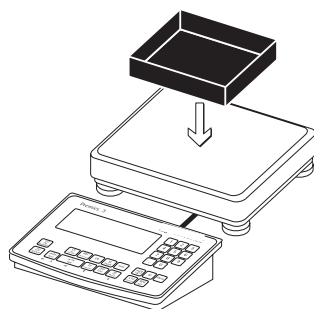
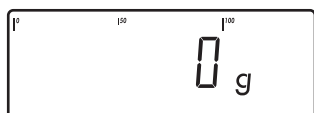
```

.....
G#    +    2.250 kg
T      +    0.000 kg
PT2   +    0.250 kg
N      +    2.000 kg
.....

```

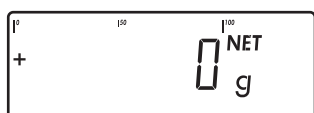
**Example with Midrics 2:**

Weigh with varying tare values; print the results; delete tare values



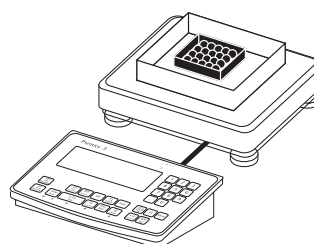
1. Switch on the scale  
The automatic self-test runs. Once a readout is shown, the Midrics is automatically zeroed and ready to operate. Press  $\rightarrow 0 \leftarrow$  to reset the unloaded weighing platform to zero at any time.

2. Place empty container on the platform

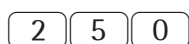


3. Tare the instrument  
Note: If the automatic tare function is active, you do not need to press  $\rightarrow T \leftarrow$  to tare the scale; the tare weight is stored automatically when you place the container on the platform.

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



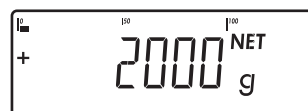
4. Place the sample in its packaging (second tare value) in the container.



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



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



Read the net weight

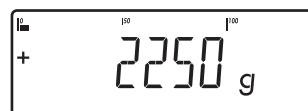


7. Print the results.

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



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



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.

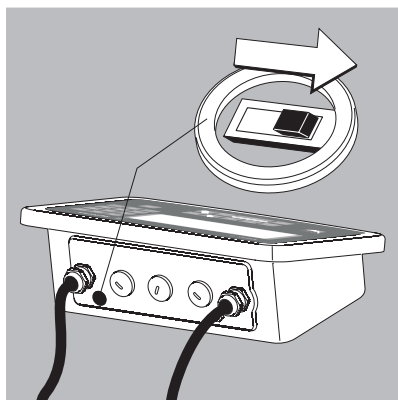
Perform adjustment to eliminate any difference determined, or to reduce it to a level that is within the applicable tolerance limits.

### 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 for devices which have undergone a conformity assessment). 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  $\rightarrow T \leftarrow$  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 for devices which have undergone a conformity assessment):

*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

The 'external calibration' function is only possible when the locking switch is open after the seal has been broken on devices which have undergone a conformity assessment. The device must then undergo the conformity assessment once again.

### Preparation

- Switch on the scale: Press  $\text{I/O}$
- While all segments are lit, press the  $\rightarrow T \leftarrow$  key
- Select the Setup menu: Press  $\text{Fn}$  repeatedly until *SETUP* is displayed
- Open the Setup menu: Press the  $\rightarrow T \leftarrow$  key
- Select weighing platform 1, "*WP 1*": Press the  $\rightarrow T \leftarrow$  key

|                      |                                                                        |
|----------------------|------------------------------------------------------------------------|
| <i>SETUP</i>         |                                                                        |
| <i>WP- 1</i>         |                                                                        |
| 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 $\rightarrow T \leftarrow > 2$ 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                                                  |
| 1.16.                | External calibration/adjustment <sup>1)</sup>                          |
| 1.16.1*              | Accessible                                                             |
| 1.16.2 <sup>2)</sup> | Blocked                                                                |
| 1.17.                |                                                                        |
| 1.17.1               | Grams                                                                  |
| 1.17.2*              | Kilograms                                                              |
| 1.17.4               | Pounds <sup>1)</sup>                                                   |
| 1.18.                | Enter calibration weight                                               |
| 1.18.1               | External user-defined weight; (enter value; e.g.: 10,000 g)            |

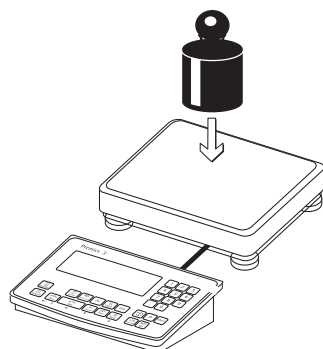
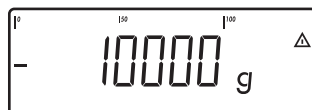
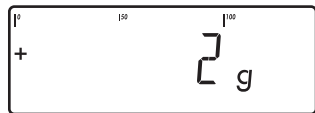
- Save settings and exit operating menu:  $\rightarrow 0 \leftarrow$  key (repeatedly)

<sup>1)</sup> = Setting cannot be changed on scales which have undergone a conformity assessment.

<sup>2)</sup> = Factory setting on scales which have undergone a conformity assessment.

**Example:**

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



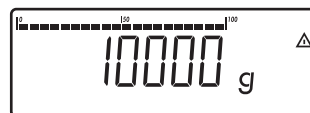
1. Zero the scale.

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

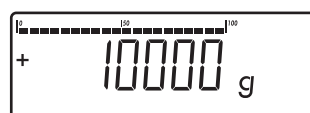
C.E.X.T.D.E.F. is shown for two seconds.

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



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



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

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

4. Start adjustment (or cancel calibration/adjustment by pressing .

After adjustment, the calibration weight value is displayed.

.....  
 24.10.2017 10:15  
 Typ MW1P1  
 Ser.no. 12345678  
 Vers. M1 222.290310  
 BVers. 00-37-39  
 .....

Ext. calibration  
 Nom. + 10000 g  
 Diff. + 1 g  
 Ext. adjustment  
 Diff. + 0 g  
 .....

24.10.2017 10:15  
 Name: .....

A GMP-compliant printout is generated.

Date/time only optional

## 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!`  
`PRTPRDT: 7.4.`  
 Enter up to 20 characters for the ID code name. No more than 7 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.

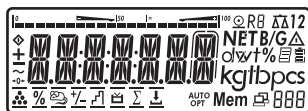
### Example with Midrics 2:

Enter ID code names.

Enter "Batch no." and "Cust." as names for ID codes 1 and 2.



1. Switch on the scale



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



The first item in the main menu is shown: `APPL`



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



4. Open the Setup menu



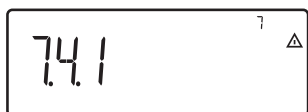
5. Select the `PRTPRDT` menu item to access ID code settings (press `[Fn]` repeatedly until `PRTPRDT` is displayed)



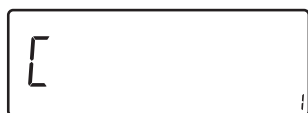
6. Select the menu item for header and ID code settings



7. Press `[Fn]` repeatedly until `7.4.1` is displayed.



8. Press `[→T←]` to activate alphanumeric input.



9. Enter the first character using the **[Fn]** and **[Fn]** keys (in this example, the first character is "[")

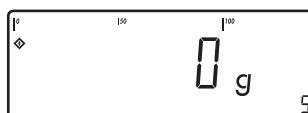
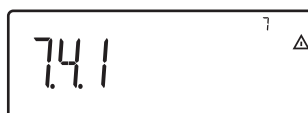
10. Save the character

11. Proceed as described above to enter subsequent characters.

After entering the last character, press **[T←]** to save the code.

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

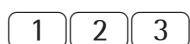
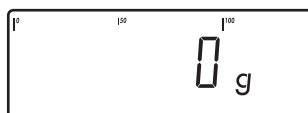
13. Press and hold **[T←]** to exit the operating menu



#### Example with Midrics 2:

Enter ID code values.

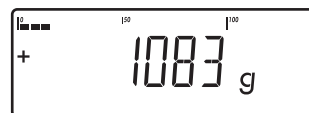
Enter "123" as the value for ID code 2.



1. Activate ID input.

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

3. Press **[OK]** to conclude input.



4. Place sample on the platform



5. Print the weight value

|            |          |
|------------|----------|
| ID2        | 123      |
| 24.02.2017 | 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



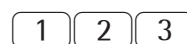
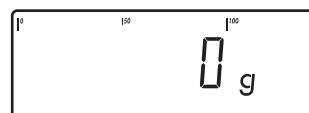
Delete ID code 1



Delete ID code 2

#### Example with Midrics 2:

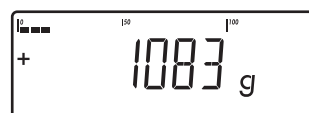
Enter a value for ID code 1 directly.



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



2. Store the value as ID 1



3. Place sample on the platform



4. Print the weight value

|            |          |
|------------|----------|
| ID1        | 123      |
| 24.02.2017 | 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 | 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        |
| Automatic taring                  | X        | X        |
| Automatic printing                | X        | X        |
| Unit conversion                   | X        | X        |
| Resolution x10                    | X        | X        |
| Alibi memory                      | optional | optional |
| Ethernet                          | optional | 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
  - Keypad input: Enter a reference sample weight (i.e., the weight of one piece) using the keypad and press **[OK]** to save it.

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.

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 
- While all segments are lit, press the  key
- Select the Application menu: Press  repeatedly until *APPL* is displayed
- Open the Application menu: Press the  key
- Select the Counting application: Press the  key repeatedly until the desired menu item is displayed and press  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  to save your settings and hold down the  button.

### 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  $\times 10$ ); the “+2 decimal places” increases display accuracy  $\times 100$ , 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.

*AUTOI* Indicates that APW update is active.

*OPTI* 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.

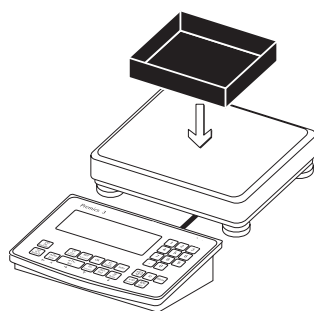
**Example:**

Determining the number of uncounted parts.

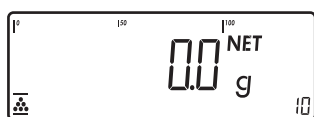
Settings (changes in the factory settings required for this example):

Setup: Application: Counting

Setup: PRTPROT (printout): 7.7.x (COM1) (see "Configuration" for options)

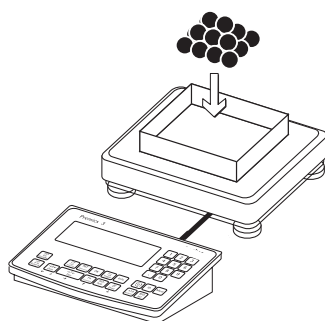


1. Place empty container on the platform

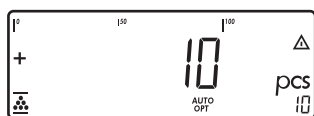


2. Tare the scale

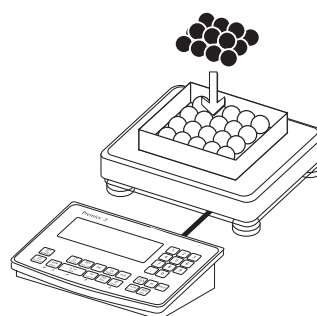
Note: If the automatic tare function is enabled, you do not need to press the key to tare the scale; the tare weight is saved automatically when you place the container on the platform



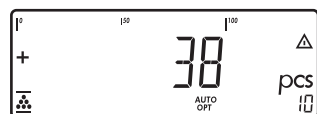
3. Place a number of parts in the container for the reference quantity (in this example, 10 pcs)



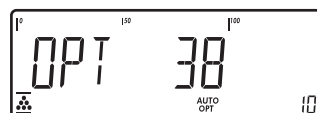
If the weight is too light, *INF 29* is displayed.



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

Configured printout:  
see page 65

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

Qnt 38 pcs

## Application: Neutral Measurement

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  (> 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  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  key.
  - Place any amount of the sample material on the connected weighing platform, enter the calculation factor through the keypad, and press the  key to calculate the reference sample weight.
  - Keypad input: Enter the reference weight (i.e., the weight of one meter of electrical cable) using the keypad and press  to save it.

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.

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

### Preparation

- Switch on the scale: Press .
- While all segments are lit, press the  key
- Select the Application menu: Press  repeatedly until *APPL* is displayed
- Open the Application menu: Press the  key
- Select the Neutral Measurement application: Press the  key repeatedly until the desired menu item is displayed and press  to open the submenu
- Tare function:
  - 1) If you store a tare (weight value) by pressing the  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  to save your settings and  (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  **07**: 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  **07**: 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  **09**: 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  $\times 10$ ); "+2 decimal places" increases display accuracy  $\times 100$ , 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  **07**: 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  $\square$  electrical cabling) can be displayed.

The number of decimal places displayed in neutral measurement is configured in the operating menu under:

APPL  **07**: 3.10.

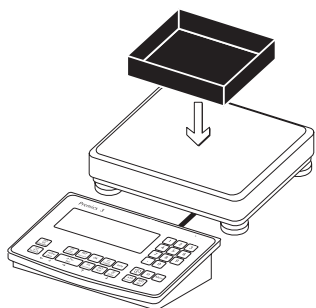
### Example:

Measuring 25 m electrical cable.

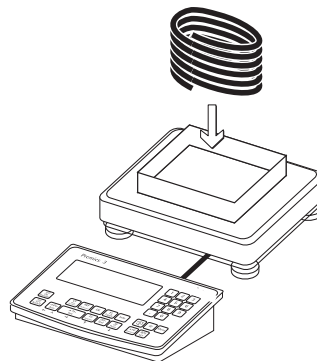
Settings (changes in the factory settings required for this example):

Setup: Application: Neutral Measurement

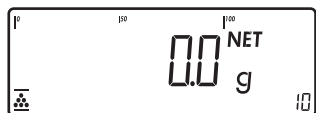
Setup: PRTPROT (printout): 7.7.x (COM1) (see “Configuration” for options)



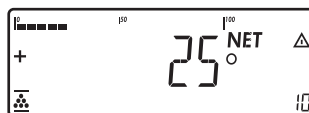
1. Place empty container on the platform



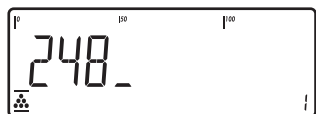
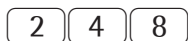
5. Place the desired amount of cable in the container



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



Read the result



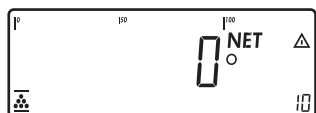
3. Enter the weight of 1 meter of cable using the keypad (in this example, 248 g)



6. Print the result

nRef + 1 o  
wRef + 0.248 kg  
G# + 6.794 kg  
T + 0.541 kg  
N + 6.253 kg

Configured printout:  
see page 65



4. Save value entered as reference weight.

Qnt 25 o  
-----

## 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 **[G]**
- 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/O]**.
- 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 **⏮**: 3.5.

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.

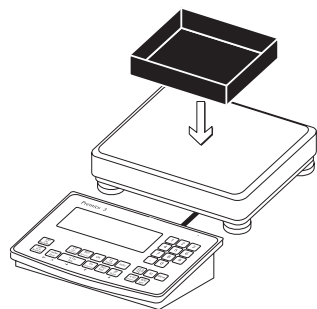
**Example:**

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)

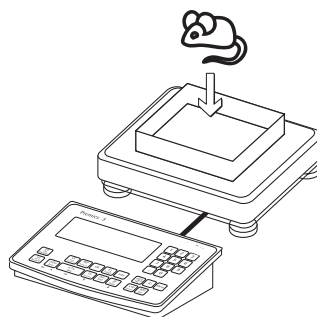


Place empty container on the platform

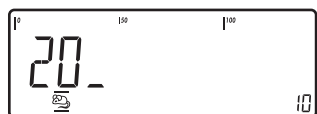


1. Tare the scale.

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



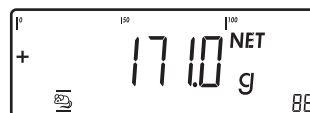
2. Place 1<sup>st</sup> animal in container



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



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



5. Print the results.

Note: If automatic printout of results is enabled, you do not need to press the  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/O]**
- 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  $\times 10$ ); "+2 decimal places" increases display accuracy  $\times 100$ , 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=  $(\text{current weight} - 100\% \text{ weight}) / * 100$

Loss=  $(\text{current weight} - 100\% \text{ weight}) / 100\% \text{ weight} * 100$

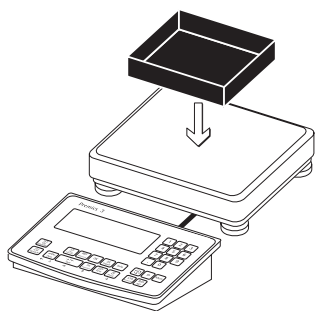
### Example:

Weighing in 100% of a sample material.

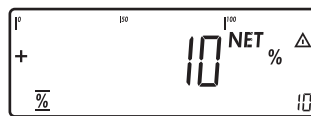
Settings (changes in the factory settings required for this example):

Setup: Application: Weighing in percent

Setup: PRTPROT (printout): 7.7.x (COM1) (see "Configuration" for options)

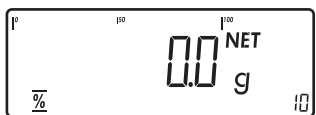


1. Place empty container on the platform

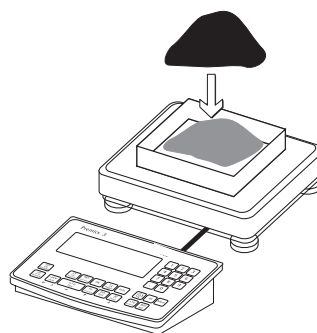


If the weight is too light, the error code *INF 29* is shown on the main display.

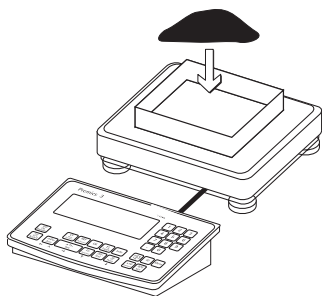
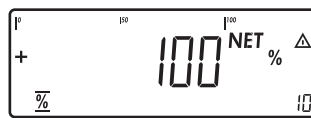
Reduce the minimum load setting.



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



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



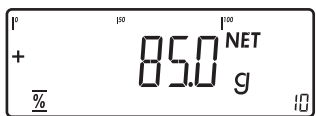
3. Add reference material in accordance with reference percentage (in this example, 85 g, = 20%)



6. Print the result

pRef + 20 %  
wRef + 0.085 kg  
  
G# + 1.080 kg  
T + 0.675 kg  
N + 0.423 kg

Configured printout:  
see page 65



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

Prc + 100 %  
-----

## Application: Checkweighing $\pm$

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  $\pm$ : 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%.
- Input of the target value as absolute weight value of the lower limit (minimum) and the upper limit (maximum)
- Target and tolerance limits checked during input; values must conform to: Upper limit  $\geq$  Target  $\geq$  Lower limit  $\geq$  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  $\left[ \frac{S}{\pm} \right]$ . 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  $\left[ \text{Info} \right]$
- Automatic printout of results.  
Configuration:  
*APPL  $\pm$ : 4.6.*
- Automatic taring of container weight.  
Configuration:  
*APPL  $\pm$ : 3.7.*
- Automatic initialization with the most recently saved application data when you switch on the Midrics.  
Configuration:  
*APPL  $\pm$ : 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  $\left[ \text{CF} \right]$  key, overwrite it or until you select a different application.

- Restore factory default settings.

Configuration:  
*APPL  $\pm$ : 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 initialisation values will remain active until they are deleted or overwritten with the  $\left[ \text{CF} \right]$  button or the application is changed.

- Tare function:  
1) If you store a tare (weight value) by pressing the  $\left[ \rightarrow T \leftarrow \right]$  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  $\pm$ : 3.25.*

### Preparation

- Switch on the scale: Press  $\left[ \text{ON} \right]$
- While all segments are lit, press the  $\left[ \rightarrow T \leftarrow \right]$  key
- Select the Application menu: Press  $\left[ \text{Fn} \right]$  repeatedly until *APPL* is displayed
- Open the Application menu: Press the  $\left[ \rightarrow T \leftarrow \right]$  key
- Select the Checkweighing application: Press the  $\left[ \text{Fn} \right]$  key repeatedly until the desired menu item is displayed and press  $\left[ \rightarrow T \leftarrow \right]$  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
  - 4.5.3 Target value and asymmetrical percentage limits
  - 4.5.4 Target value and relative weight values to the target value, e.g. 500 g and +20 g or -10 g = 520 g or 490 g
- 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  $\left[ \rightarrow T \leftarrow \right]$  to save your settings and  $\left[ \rightarrow 0 \leftarrow \right]$  (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*  $\frac{\%}{L}$ : 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 weight of the item being weighed is displayed logarithmically between 0 and the lower limit, then linearly beyond that.

- 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 YD001M-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")  |
| — 8.24.7  | Above minimum sample quantity        |
| — 8.24.8  | Lighter                              |
| — 8.24.9  | Equal                                |
| — 8.24.10 | Heavier                              |
| — 8.24.11 | Set                                  |

Under:

*APPL*  $\frac{\%}{L}$ : 4.4.

you can define whether these control ports are

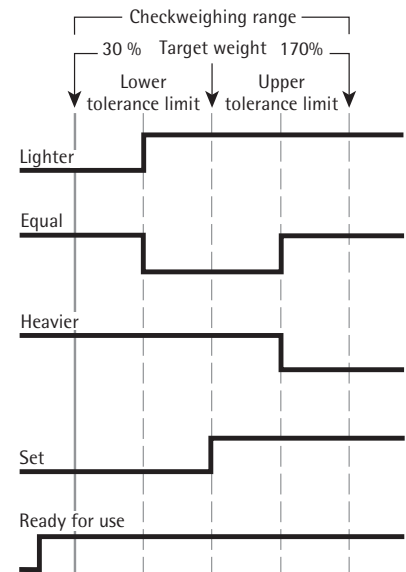
- off,
- always on,
- active at stability,
- active within the checking range, or
- active at stability within the checking range

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*  $\frac{\%}{L}$ : Section 4.3.

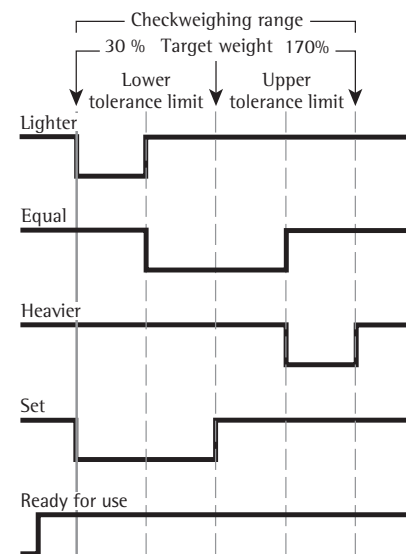
For example, you can use this function to show the weighed or measured result on a simple external indicator.

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



- Activation of port lines:  
within checkweighing range

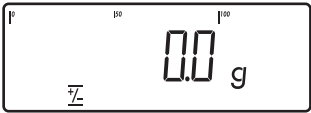
- <SET> control output: set or ready for operation

### Output Port Specifications

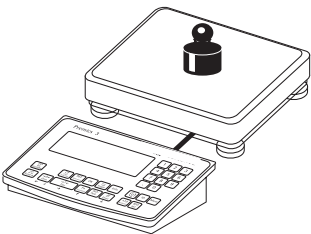
- When not in use, the voltage level is high: >3.7 V/+4 mA
  - When activated, the voltage level is low: <0.4 V/-4 mA
- ⚠ The data outputs are not protected from short circuits.

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



OK



1 2 4 0



OK



1 2 8 0

OK



(E)

|         |   |       |    |
|---------|---|-------|----|
| Setp    | + | 1.250 | kg |
| Min     | + | 1.240 | kg |
| Max     | + | 1.280 | kg |
|         |   |       |    |
| G#      | + | 1.256 | kg |
| T       | + | 0.000 | kg |
| N       | + | 1.256 | kg |
|         |   |       |    |
| Lim     | + | 0.48  | %  |
|         |   |       |    |
| W.Diff+ |   | 0.006 | kg |
| -----   |   |       |    |

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

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 (E) key; the results are printed automatically.

Target  
Minimum  
Maximum

Gross weight  
Tare weight  
Net weight

Percentage of deviation  
from target\*  
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* **Δ**: 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* **Δ**: 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* **Δ**: 4.10.
  - Automatic taring of container weight. Configuration: *APPL* **Δ**: 3.7.
  - Automatic initialization with the most recently saved application data when you switch on the Midrics. Configuration: *APPL* **Δ**: 3.8.
  - Closing application program; deleting parameters: The class limit values will remain active until they are deleted or overwritten with the **[CF]** button or the application is changed.
  - Restore factory default settings. Configuration: *APPL* **Δ**: 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* **Δ**: 3.25.

### Preparation

- Switch on the scale: Press **[I/O]**
- 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 hold down the **[→T←]** button.

## Minimum Load

The minimum load for the first class is configured in the operating menu, under:

APPL  $\Delta\Delta$ : 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  $\Delta\Delta$ : 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 = smaller
  - Class 2 = the same
  - Class 3 = larger
  - Set
- With 5 classes:
  - Classes 1/2
  - Classes 2/3/4
  - Classes 4/5
  - Set

Under:

APPL  $\Delta\Delta$ : 4.7.

you can define whether these control ports are

- off,
- always on,
- activated at stability,

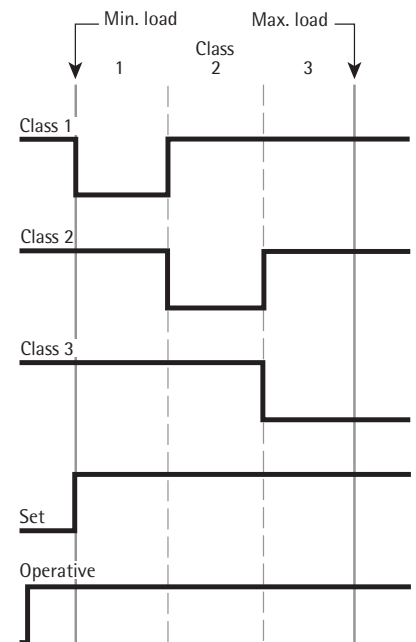
The “SET” output normally changes its voltage level when the current weight exceeds the minimum load. Alternatively, you can assign the “Operative” function (indicating “Ready-for-use”) to this port. Configuration: APPL  $\Delta\Delta$ : 4.3. or with YD001M-10

Configuration in the operating menu:

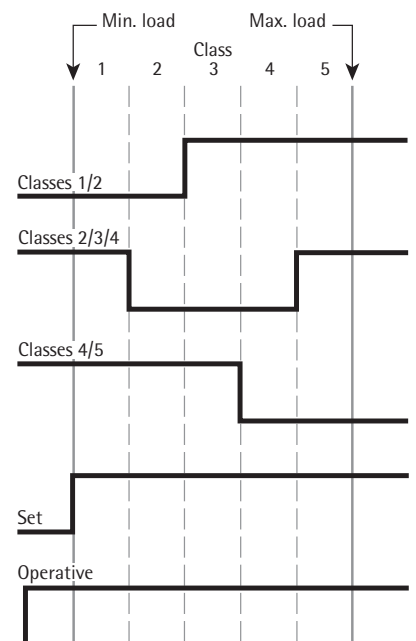
CTR OUT

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  |                                      |
| — 8.24.7  |                                      |
| — 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

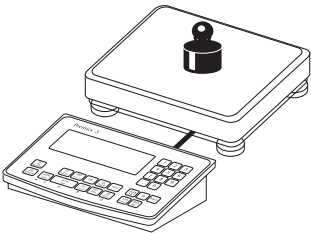


1 3 0

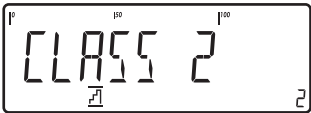
4. Enter the upper limit for Class 2 via the keypad (in this example: 130 g)

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

Configured printout:  
see page 65

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

Class 2  
-----

## Application: Totalizing $\Sigma$

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  $\Sigma$ : 3.16.*
- Save weight values and calculated values from Counting, Weighing in Percent or Checkweighing. Configuration: *APPL  $\Sigma$ : 3.22.*
- Display of the current item counter on the numerical display (based on the items already added up)
- 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  $\Sigma$ : 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 totalisation memory value will remain active until it is deleted or overwritten with the **[CF]** button or the application is changed.
- Restore factory settings: *APPL  $\Sigma$ : 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  $\Sigma$ : 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 up appears on the numerical display.

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 $\leftarrow$ ]** 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  $\Sigma$ : 3.25.*

### Preparation

- Switch on the scale: Press **[I/O]**
- While all segments are lit, press the **[T $\leftarrow$ ]** key
- Select the Application menu: Press **[Fn]** repeatedly until *APPL* is displayed
- Open the Application menu: Press the **[T $\leftarrow$ ]** key
- Select the Totalizing application: Press the **[Fn]** key repeatedly until the desired menu item is displayed and press **[T $\leftarrow$ ]** 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
- 3.23. 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 **[→I←]** to save your settings and hold down the **[→I←]** button 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.

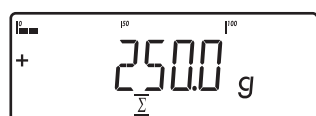
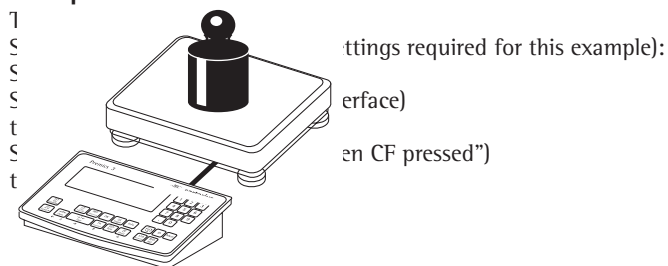
## Data Record or Printout

In the operating menu, under:  
*APPL* **Σ**: 3.17.

you can configure whether a printout is generated manually, by pressing **[E]**, 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 **[E]** (individual printout). If you select 3.17.2 (printout of a component on request), the component printout is generated.

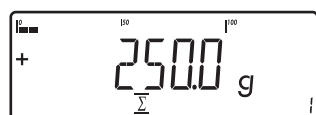
The total data record is printed when you clear the totalizing memory (by pressing the **[CF]** key).

## Example:



1. Place the first weight on the weighing platform

Weight value is displayed

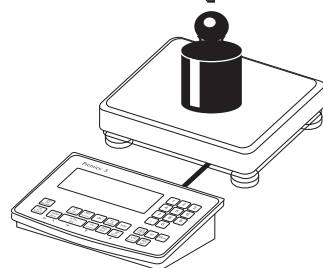


2. Save the first weight value in totalizing memory

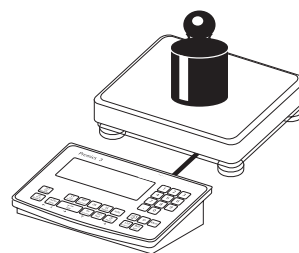
The component data is printed automatically (configured printout)

1 + 0.000 kg  
N + 0.250 kg

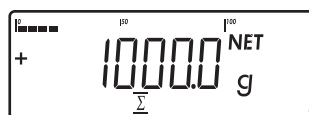
The transaction counter value is increased by 1.



3. Remove the first weight from the weighing platform



4. Place the weight on the weighing platform



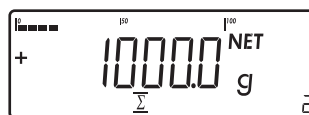
Weight value is displayed

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/O]**
- 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 <b>[OK]</b> is pressed           |
| 3.17.3  | Generate printout with complete standard configuration only the first time <b>[OK]</b> 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 **[→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** ↓: 3.5.

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):

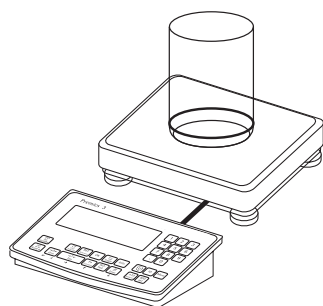
Setup: Application: Net-total Formulation

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

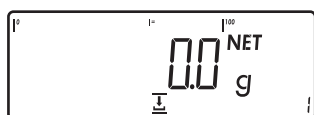


1. Place empty container on the platform

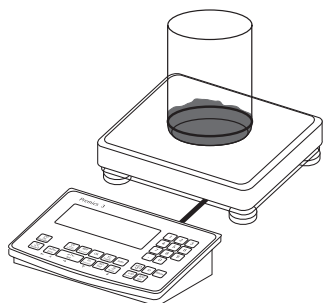


2. Tare the scale

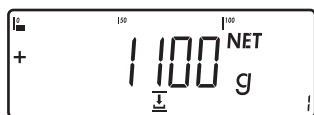
Note: If the automatic tare function is enabled, you do not need to press the  key to tare the scale; the tare weight is saved automatically when you place the container on the platform



Prompt to fill and save the first component is displayed



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



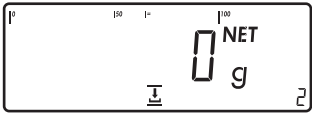
The weight of the first component is displayed



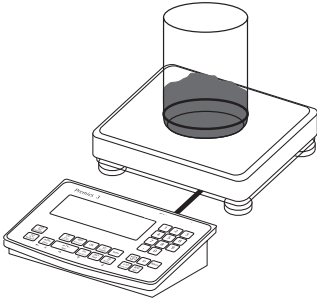
4. Store the weight of the first component

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)



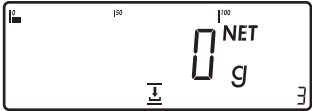
The weight of the second component is displayed

OK

Cmp002+ 0.525 kg

6. Store the weight of the third component

The component weight is printed automatically



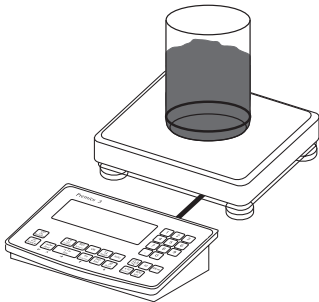
The weighing platform is tared and the component counter value is increased by one. Prompt to fill and save the third component is displayed.

↺

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

Cmp003+ 0.375 kg

9. Store the weight of the third component

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

Number of components  
Contents of component memory

Cont.T+ 0.296 kg

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 **[E]**  
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 “YDP14IS: Label” or “YDP05: 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 **[ON]**
- 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<br>Configure standard printout (press <b>[E]</b> , <b>[OK]</b> )            |
| 7.8  | Configure standard printout for optional UniCOM interface ( <b>[E]</b> , <b>[OK]</b> keys) |
| 7.9  | COM1 interface<br>Print results when <b>[CF]</b> pressed in applications                   |
| 7.10 | Printout of results on optional UniCOM interface when <b>[CF]</b> 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 Printouts

### 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  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 \_”.
- 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

Example: format of Block 2:

```
21.02.2017      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 be 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:

-----  
14.02.2017            09:43  
Typ                    MW1P1  
Ser.no.                12345678  
Vers.    M1 222.290310  
BVers.                00-37-39  
-----

-----  
14.02.2017            09:45  
Name:                                 
-----

Dotted line  
Date and time<sup>1)</sup>  
Midrics model  
Midrics serial no.  
Software release for application  
Software release for basic version  
Dotted line

GMP footer:  
Dotted line  
Date and time<sup>1)</sup>  
Field for operator signature  
Blank line  
Dotted line

<sup>1)</sup> Interface YD001M-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
14.01.2017      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 **[E]** 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 YDP05, you can configure manual form feed in the operating menu. If the corresponding setting is active, you can activate “form feed” manually. With the YDP14IS printer, form feed is automatic after each print command (fixed setting).

Example with 2 components

```

      HEADER LINE 1
      HEADER LINE 2
14.02.2017 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
14.02.2017 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 **[E]** 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
14.02.2017 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

```

## Configuring Printouts

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
14.02.2017    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:<br>YDP04IS<br>YDP05<br>YDP14IS<br>YDP21<br>YRD03Z second display<br>USB adapter cable for connecting a computer over USB: YCC01I-USBM2 |
| 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<br>Ethernet: RJ45 socket                                                                                                                                                                                                                                                               |
| UniCOM (can be selected optionally)              |                                                                                                                                                                                                                                                                                                                                                      |
| RS-232: Option A1, YD001M-232C0                  | Computer with serial RS-232 input port, SBI/XBPI protocol and SMA<br>External alibi memory YAM01IS<br>YRD03Z second display<br>USB adapter cable for connecting a computer over USB: YCC01I-USBM2<br>External red-green-yellow display YRD01IS (uses digital control outputs)<br>Digital control lines (TTL/5V) <=;set;> to YSB01 relay Ethernet box |
| RS-422: Option A2, YD001M-485/422                | Point-to-point connection with SBI/XBPI or SMA as protocol                                                                                                                                                                                                                                                                                           |
| RS-485: Option A3, YD001M-485/422                | Network with up to 32 scales based on xBPI                                                                                                                                                                                                                                                                                                           |
| Analog output port:<br>Option A9, YD001M-20MA    | Controllers with analog input                                                                                                                                                                                                                                                                                                                        |
| Digital I/O, 5 IN/5 OUT:<br>Option A5, YD001M-I0 | For connecting controllers; electrically isolated<br>Digital IN: Voltage: 0–30V DC; current: 1 to 2 mA<br>Digital OUT: Voltage: >30V DC; current: 100 mA<br>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                                                                                                                                 |
|-----------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <i>ERR 10 1</i> | Key is stuck<br>Key pressed at power on                                                     | Release key<br>Contact your local Service Center                                                                                         |
| <i>ERR 320</i>  | Program memory defective                                                                    | Contact your local Service Center                                                                                                        |
| <i>ERR 340</i>  | Operating parameter memory (EEPROM) defective                                               | Turn the scale off and then on again,<br>If the error code remains displayed, please contact your local Service Center                   |
| <i>ERR 34 1</i> | Loss of data                                                                                | Contact your local Service Center                                                                                                        |
| <i>ERR 343</i>  | Loss of data from the memory area for transaction numbers in external Alibi memory          | Contact your local Service Center                                                                                                        |
| <i>ERR 2627</i> | Error relating to the set time for the use of the internal Alibi memory                     | Set output format correctly                                                                                                              |
| <i>INF 0 1</i>  | Data output not compatible with output format                                               | Change the menu settings                                                                                                                 |
| <i>INF 02</i>   | Calibration/adjustment condition not met; e.g., the scale was not tared                     | Calibrate only when zero is displayed<br>Press  to tare |
| <i>INF 03</i>   | Calibration/adjustment could not be completed within a certain time                         | Allow the scale to warm up and then repeat the adjustment process                                                                        |
| <i>INF 07</i>   | Function not allowed in scales verified for use in legal metrology                          | Contact your local Service Center for information on changing settings                                                                   |
| <i>INF 08</i>   | The load on the scale is too heavy to zero the readout                                      | Check “Initial zero-setting range” (menu item 1.12)                                                                                      |
| <i>INF 09</i>   | Taring is not possible when the gross weight is = zero                                      | Zero the scale                                                                                                                           |
| <i>INF 10</i>   | Tare key is blocked when there is data in the tare memory                                   | The data stored for the application must be deleted before taring                                                                        |
| <i>INF 22</i>   | Error when storing reference value; load is too light                                       | Put a heavier weight on the scale                                                                                                        |
| <i>INF 23</i>   | Error in initializing an application                                                        | Contact your local Service Center                                                                                                        |
| <i>INF 29</i>   | Minimum load not reached                                                                    | Define a lower value for the minimum load (in the Application menu, item 3.6)                                                            |
| <i>INF 7 1</i>  | Cannot store the current weight value (e.g., if control limits are too low or too high)     | None                                                                                                                                     |
| <i>INF 72</i>   | Cannot store the current weight value (e.g., the transaction counter has reached its limit) | None                                                                                                                                     |
| <i>INF 73</i>   | Data not found or unreadable                                                                | Contact your local Service Center                                                                                                        |
| <i>INF 74</i>   | Function is blocked (e.g., menu is locked)                                                  | None                                                                                                                                     |
| <i>INF 98</i>   | No weighing platform connected                                                              | Contact your local Service Center                                                                                                        |
| <i>INF 99</i>   | No weighing platform connected                                                              | Contact your local Service Center                                                                                                        |
| <i>NO WP</i>    | 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 Minebea Intec service technicians using genuine Minebea Intec 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 Minebea Intec Service Center or the International Technical Support Unit based in Goettingen, Germany.

Maintenance and repair work may be performed only by authorized Minebea Intec 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, Minebea Intec 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 Bovenden, Germany:

Minebea Intec Bovenden GmbH & Co. KG  
Leinetal 2  
37120 Bovenden, Germany  
WEEE-Reg.-Nr. DE58091735

In countries that are not members of the European Economic Area (EEA) or where no Minebea Intec 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.

Minebea Intec 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.minebea-intec.com](http://www.minebea-intec.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

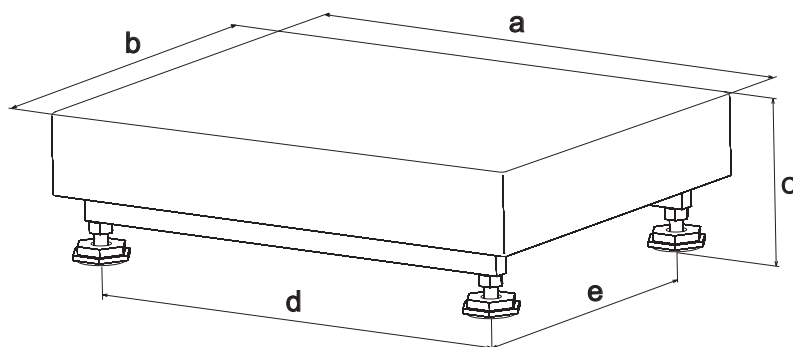
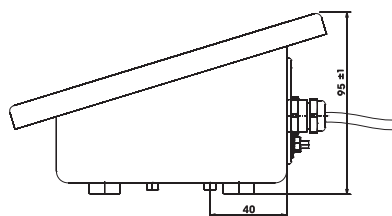
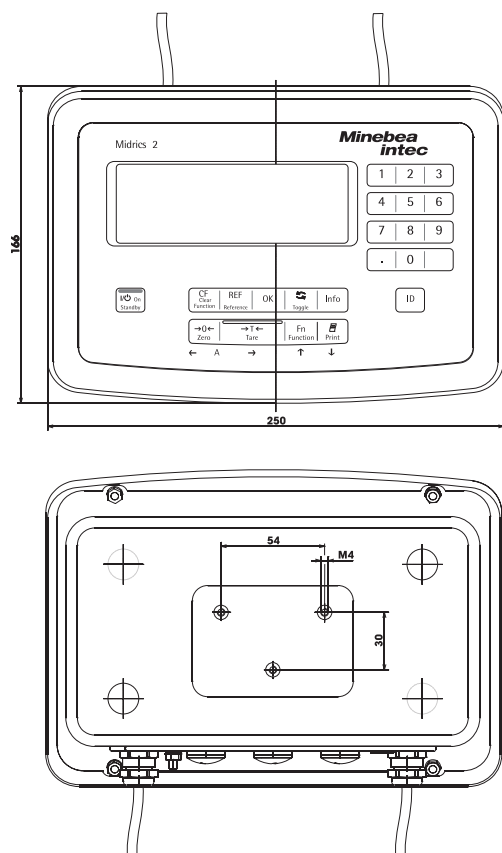
### Specifications

|                                                                |                                                                                                                                                                                                                               |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum readability                                            | 15,000 scale intervals (in not legal metrology)                                                                                                                                                                               |
| Accuracy class                                                 | Ⓔ and Ⓕ (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                                    | -10°C to +40°C (+14°F to 104°F)                                                                                                                                                                                               |
| Humidity                                                       | Maximum relative humidity 80% for temperature up to 31°C (~88°F);<br>linear decrease down to 50% relative humidity at 40°C (+104°F)                                                                                           |
| Protection class of the housing<br>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                                                   | 100-240 VAC (-/+10%), 50-60 Hz, 23 VA max.                                                                                                                                                                                    |
| Transient overvoltage                                          | Overvoltage category II acc. to IEC 60364-4-443                                                                                                                                                                               |
| Operation using protective extra low voltage                   | See instruction manual for Option L8 (24-volt module)                                                                                                                                                                         |
| DC supply                                                      | 22.8 ... 26.7 V (optional: 21.6 ... 26.7 V); 12 VA max.                                                                                                                                                                       |
| AC supply                                                      | 22.8 ... 26.7 V, 50-60 Hz, 12 VA max.                                                                                                                                                                                         |
| Operation with rechargeable battery                            | See Minebea-intec Installation Instructions for Option L9<br>Operation via built-in or rechargeable battery (only available as an option that must be ordered with the scale)                                                 |
| Emissions                                                      | Acc. to EN613-1 (IEC 61326-1)<br>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):<br>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:             | MINECOMB    |             | MINECOMB             |             |                  |             |
|                   |             |             |                      |             |                  |             |
|                   | 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<br>Standard<br>version | Height<br>Stainless<br>steel<br>version | Spacing between<br>leveling feet<br>Standard version |      | Spacing between<br>leveling feet<br>Stainless steel<br>version |      | Cable length |
|-------|--------|-------|-------------------------------|-----------------------------------------|------------------------------------------------------|------|----------------------------------------------------------------|------|--------------|
|       | a      | b     | c                             | c                                       | d                                                    | e    | d                                                              | e    | (m) ca.      |
|       | (mm)   | (mm)  | (mm)                          | (mm)                                    | (mm)                                                 | (mm) | (mm)                                                           | (mm) |              |
| DC    | 320    | 240   | 85...100                      | 85...100                                | 275                                                  | 195  | 275                                                            | 195  | 1.5          |
| ED    | 400    | 300   | 96...111                      | 96...111                                | 356                                                  | 256  | 356                                                            | 256  | 2.5          |
| FE    | 500    | 400   | 110...125                     | 110...125                               | 455                                                  | 355  | 455                                                            | 355  | 2.5          |
| GF    | 650    | 500   | 142...162                     | 140...160                               | 603                                                  | 453  | 603                                                            | 453  | 3.0          |
| IG    | 800    | 600   | 142...162                     | 140...160                               | 752                                                  | 552  | 752                                                            | 552  | 3.0          |
| II    | 800    | 800   | 100...105                     | 100...105                               | 700                                                  | 700  | 700                                                            | 700  | 6.0          |
| LI    | 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

## Accessories/Options



YDP21

### Accessories/Options

#### Printer and printer accessories:

|                                                                                                                         |          |
|-------------------------------------------------------------------------------------------------------------------------|----------|
| Needle high speed matrix printer up to 57 mm paper width with internal power supply 100 - 240 Volt and power cable (EU) | YDP21    |
| Printer paper for data printer (5 rolls; length per roll: 40 m)                                                         | 6906937  |
| 3 ribbon cassettes (replacement)                                                                                        | 69Y03952 |



YDP05

|                                                                                                                          |          |
|--------------------------------------------------------------------------------------------------------------------------|----------|
| Verifiable strip and label printer with thermal print head, up to 60 mm paper width, with external 100–240V power supply | YDP05    |
| Labels for YDP05 + YDP14IS-0CEUV                                                                                         |          |
| Labels: 58×30 mm (1000 pcs)                                                                                              | 69Y03092 |
| Labels: 58×76 mm (500 pcs)                                                                                               | 69Y03093 |
| Labels: 58×100 mm (380 pcs)                                                                                              | 69Y03094 |
| Labels for YDP14IS-0CEUV                                                                                                 |          |
| Labels: 101×127 mm (305 pcs)                                                                                             | 69Y03195 |
| Printer paper for YDP05 + YDP14IS-0CEUV                                                                                  |          |
| 3 paper rolls; 60 mm × 75 m, thermo paper                                                                                | 69Y03090 |
| Printer paper for YDP14IS-0CEUV                                                                                          |          |
| 1 paper roll; 101 mm × 75 m, thermo paper                                                                                | 69Y03196 |



YDP14IS

|                                                                                                                                                                                                                       |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 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 | YDP14IS-0CEUV    |
|                                                                                                                                                                                                                       | YCC02-D09M6      |
| Verifiable strip and label printer with thermal print head, VTH                                                                                                                                                       | YDP14IS-0CEU-VTH |
| 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                                                          | YCC02-D09M6      |
| 3 color ink cartridges for YDP14IS-0CEUVTH                                                                                                                                                                            | 69Y03234         |

| Product                                                                                                                                                                           | Order No.     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>COM1</b>                                                                                                                                                                       |               |
| RS-232                                                                                                                                                                            | YD001M-232    |
| RS-232+CLOCK                                                                                                                                                                      | YD001M-232CLK |
| <b>Optional UniCOM interface</b>                                                                                                                                                  |               |
| Interface module (RS-232)                                                                                                                                                         | YD001M-232CO  |
| Interface module (RS-485), electrically isolated                                                                                                                                  | YD001M485     |
| Digital I/O, 5/5, opto-isol.                                                                                                                                                      | YD001M-IO     |
| Analog current output, 0–20mA, 4–20mA, 0 to 10 volts, 16 bit                                                                                                                      | YDA01M-20MA   |
| Ethernet                                                                                                                                                                          | YD001M-EN     |
| <b>External interface adapters</b>                                                                                                                                                |               |
| Cable for connecting RS-232 data interface to USB port on a computer <sup>2)</sup>                                                                                                | YCC01-USBM2   |
| <b>Electrical Accessories</b>                                                                                                                                                     |               |
| Remote display; connecting cable YCC02-D25F6 or Option M31 (required)                                                                                                             | YRD03Z        |
| 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         |
| External red-green-yellow display with 12-pin round connector (IP67)<br>Connection cable YCC02-R12F6 or option M36 required                                                       | YRD01IS       |
| <b>Additional Options</b>                                                                                                                                                         |               |
| 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       |
| <b>Software</b>                                                                                                                                                                   |               |
| SartoConnect 4.0 data transfer software for connecting your Minebea-intec scale to a computer;<br>YCC02-R12F6 connecting cable (Option M36) required                              | YSC03         |
| <b>Power Supply Options</b>                                                                                                                                                       |               |
| 10–30 volt module                                                                                                                                                                 | YAS02MI       |

## Accessories/Options

| Product                                                                                                                        | Order No.     |
|--------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Cables</b>                                                                                                                  |               |
| Connecting cable with cable gland for YDP14IS/YDP05 printers, open cable ends to 9-pin D-Sub male connector; 6 m               | YCC02-D09M6   |
| Connecting cable with cable gland for a YDP21 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 |

### 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, 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 |

### "EC Verification" –

#### A Service Offered by Minebea-intec

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 Minebea-intec office, dealer or service center. For more information on the verification of weighing instruments for use in legal metrology, contact the Minebea-intec Service Center

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, 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  |



## EU-Konformitätserklärung EU Declaration of Conformity

Hersteller  
*Manufacturer* **Minebea Intec Bovenden GmbH & Co. KG**  
**Leinetal 2, 37120 Bovenden, Germany**

erklärt in alleiniger Verantwortung, dass das Betriebsmittel  
*declares under sole responsibility that the equipment*

Geräteart  
*Device type* **Midrics Komplettwaage**  
**Midrics Complete Scale**

Baureihe  
*Type series* **MW1S1, MW1S4, MW2S1, MW2S4, MW1P1, MW1P4, MW2P1, MW2P4**

in der von uns in Verkehr gebrachten Ausführung allen einschlägigen Bestimmungen der folgenden Europäischen Richtlinien – einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen – entspricht und die anwendbaren Anforderungen folgender harmonisierter Europäischer Normen erfüllt:  
*in the form as delivered fulfils all the relevant provisions of the following European Directives – including any amendments valid at the time this declaration was signed – and meets the applicable requirements of the harmonized European Standards listed below:*

2014/30/EU Elektromagnetische Verträglichkeit  
*Electromagnetic compatibility*  
EN 61326-1:2013

2014/35/EU Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen  
*Electrical equipment designed for use within certain voltage limits*  
EN 61010-1:2010

2011/65/EU Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS)  
*Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)*  
EN 50581:2012

Nur für Geräte mit Option Y2 | Only for devices with option Y2  
2014/34/EU Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen  
*Equipment and protective systems intended for use in potentially explosive atmospheres*  
EN 60079-0:2012, EN 60079-11: 2012, EN 60079-15:2010, EN 60079-31:2014

Kennzeichnung  
*Marking* II 3G Ex nA ic IIC T4 Gc  
II 3D Ex tc IIIC T80°C Dc

Referenz  
*Reference* Herstellerbescheinigung Nummer: SIS14ATEX006X  
*Manufacturer's Certificate number:*

Jahreszahl der CE-Kennzeichenvergabe | *Year of the CE mark assignment:* **17**  
Minebea Intec Bovenden GmbH & Co. KG  
Bovenden, 2017-02-08

  
Dr. Bodo Krebs  
President

  
Dr. Jörg Hachenberg  
Head of Mechatronics

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten EU-Richtlinien, ist jedoch keine Zusicherung von Eigenschaften. Bei einer mit uns nicht abgestimmten Änderung des Produktes verliert diese Erklärung ihre Gültigkeit. Die (Sicherheits-)hinweise der zugehörigen Produktdokumentation sind zu beachten.

*This declaration certifies conformity with the above mentioned EU Directives, but does not guarantee product attributes. Unauthorised product modifications make this declaration invalid. The (safety) information in the associated product documentation must be observed.*

|  <b>TRUE VALUE</b>                                                    |                  |                 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|--|
| <b>Minebea Intec Bovenden GmbH &amp; Co. KG</b><br>Leinetal 2<br>37120 Bovenden<br>Germany                                                              |                  |                 |  |
| Date                                                                                                                                                    | Reference number | Number of pages |  |
| 27 January 2017                                                                                                                                         | —                | 2               |  |
| Subject                                                                                                                                                 |                  |                 |  |
| <b>Change of name</b>                                                                                                                                   |                  |                 |  |
| Dear Ladies and Gentlemen                                                                                                                               |                  |                 |  |
| It concerns EC Type approval certificates:                                                                                                              |                  |                 |  |
| 1) T7899 Sartocowat,<br>2) T7884 Sartocomb                                                                                                              |                  |                 |  |
| Registered name of the holder                                                                                                                           |                  |                 |  |
| Sartorius Industrial Scales GmbH & Co. KG                                                                                                               |                  |                 |  |
| Leinetal 2                                                                                                                                              |                  |                 |  |
| 37120 Bovenden                                                                                                                                          |                  |                 |  |
| has be changed in                                                                                                                                       |                  |                 |  |
| Minebea Intec Bovenden GmbH & Co. KG                                                                                                                    |                  |                 |  |
| Leinetal 2                                                                                                                                              |                  |                 |  |
| 37120 Bovenden                                                                                                                                          |                  |                 |  |
| The certificates will be amended in the next revision                                                                                                   |                  |                 |  |
| <b>NMI Certin B.V.</b><br>Hugo de Grootplein 1, 3314 EG Dordrecht<br>P.O. Box 394, 3300 AJ Dordrecht, Netherlands<br>T +31 78 6332 332<br>certin@nmi.nl |                  |                 |  |
| NMI Certin B.V., chamber o.c. no. 27.233.418                                                                                                            |                  |                 |  |

|                                                                                                                                        |                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Namensänderung</b><br>Sehr geehrte Damen und Herren<br>Der in den Zulassungsscheinen:<br>1) T7899 Sartocowat<br>2) T7884 Sartocomb  | eingetragene Name des Zulassungsinhabers<br>Sartorius Industrial Scales GmbH & Co. KG<br>Leinetal 2<br>37120 Bovenden |
| hat sich geändert in<br>Minebea Intec Bovenden GmbH & Co. KG<br>Leinetal 2<br>37120 Bovenden                                           | Eine Änderung der Zertifikate erfolgt im Rahmen der nächste Revision                                                  |
| <br>Kees van Willenswaard<br>Senior Account Manager |                                                                                                                       |



# EU-type examination certificate

Number **T11379** revision 0  
Project number 1902516  
Page 1 of 1

**Issued by** NMI Certin B.V.,  
designated and notified by the Netherlands to perform tasks with respect to  
conformity modules mentioned in Article 13 of Directive 2014/31/EU, after  
having established that the measuring instrument meets the applicable  
requirements of Directive 2014/31/EU, to:

**Manufacturer** Minebea Intec Bovenden GmbH & Co. KG  
Leinetal 2  
D-37120, Bovenden  
Germany

**Measuring instrument** A **Non-automatic weighing instrument**

Manufacturer's : Minebea Intec  
mark  
Type : MINECOMB

Further properties are described in the annex:  
– Description T11379 revision 0.

**Valid until** 6 July 2028

**Issuing Authority** **NMI Certin B.V., Notified Body number 0122**  
6 July 2018

C. Oosterman  
Head Certification Board

**NMI Certin B.V.**  
Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands  
T +31 78 6332332  
certin@nmi.nl  
www.nmi.nl

This document is issued under the provision  
that no liability is accepted and that the  
manufacturer shall indemnify third-party  
liability.

The designation of NMI Certin B.V. as Notified  
Body can be verified at  
[http://ec.europa.eu/growth/tools-](http://ec.europa.eu/growth/tools-databases/nando/)  
[databases/nando/](http://ec.europa.eu/growth/tools-databases/nando/)

Reproduction of the complete  
document only is permitted.





## Description

Number **T11379** revision 0  
Project number 1902516  
Page 1 of 3

### 1 General information about the non-automatic weighing instrument

All properties of the non-automatic weighing instrument, whether mentioned or not, shall not be in conflict with the legislation.

This certificate contains references to other certificates. The properties mentioned in these certificates shall be observed in addition to the properties mentioned in this certificate.

#### 1.1 Essential parts

Indicator / analog data processing device / terminal:

| Producer                             | Type               | Certificate number |
|--------------------------------------|--------------------|--------------------|
| Minebea Intec GmbH                   | PR5410             | D09-07.54          |
| Minebea Intec Bovenden GmbH & Co. KG | TA                 | D09-11.02          |
| Minebea Intec Bovenden GmbH & Co. KG | TM...              | D09-07.21          |
| Minebea Intec Bovenden GmbH & Co. KG | TA-X               | DE-15-EC-PTB002    |
| Minebea Intec GmbH                   | PR5230 with PR5110 | TC7959             |
| Minebea Intec GmbH                   | PR5900             | DE-15-PC-PTB005    |
| Minebea Intec GmbH                   | PR5500             | DE-18-PC-PTB002    |

Any load cell(s) may be used under this certificate for instruments as described in WELMEC 2.4 Issue 2, provided the following conditions are met:

- There is a respective certificate (EN45501) or an OIML Certificate of Conformity (R 60) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU.
- The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules (WELMEC 2, 2015 clause 10), and any particular installation requirements. A load cell marked **NH** is allowed only if humidity testing to EN45501 has been conducted on this load cell.
- The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in the above WELMEC 2 document, at the time of putting into use.
- The load transmission must conform to one of the examples shown in WELMEC 2.4 Issue 2.



## Description

Number **T11379** revision 0  
Project number 1902516  
Page 2 of 3

### 1.2 Essential characteristics

|                                        |                                                                 |
|----------------------------------------|-----------------------------------------------------------------|
| Accuracy class                         | III or IIII                                                     |
| Number of verification scale intervals | $n \leq$ number of scale intervals in the certificates involved |

Further essential characteristics are described in the certificates involved.

### 1.3 Essential shapes

The data plate is secured against removal by sealing or will be destroyed when removed.

The inscriptions Max, Min, e, as required by Directive 2014/31/EU Annex III point 1.4 are presented in the display by software or on a label near the display.

### 1.4 Conditional parts

The non-automatic weighing instrument may be equipped with peripheral equipment which is used for the applications listed in Article 1(2), (a) to (f) of Directive 2014/31/EU, provided that the peripheral equipment is certified to be connected to a non-automatic weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU, or, that the equipment and the use of the equipment complies with the requirements of WELMEC 2.5 Issue 2 clause 2.2.

The non-automatic weighing instrument is fitted with a levelling device and a level indicator, unless the instrument is installed in a fixed position. A ring on the level indicator indicates when the maximum tilt is exceeded.

### 1.5 Non-essential parts

The non-automatic weighing instrument may be connected to non-essential devices, for example but not limited to bar code readers, foot switches, second displays and cash drawers, provided that:

- They do not present primary data used for purposes mentioned in Article 1(2), (a) to (f) of Directive 2014/31/EU unless the "Preliminary observation" in Annex I of the Directive is satisfied;
- They do not lead to an instrument having other essential characteristics than those fixed by this certificate.

## 2 Seals

To secure components that may not be dismantled or adjusted by the user, the non-automatic weighing instrument has to be secured in a suitable manner on the locations indicated in the certificates involved.

The connecting cable of the load cell or the junction box is provided with the possibility to seal.



## Description

Number **T11379** revision 0  
Project number 1902516  
Page 3 of 3

### 3 Conditions for conformity assessment

The marks, facilities for the marks and the inscriptions on the non-automatic weighing instrument fulfil the requirements of point 1 of Annex III of Directive 2014/31/EU.

The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in WELMEC 2, 2015 clause 10, at the time of putting into use.



# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



## Prüfschein

Test Certificate

Ausgestellt für:

Issued to:

Sartorius Industrial Scales GmbH & Co. KG  
Leinetal 2  
37120 Bovenden

Prüfgrundlage:

In accordance with:

DIN EN 45501 (1992) Nr. 8.1, WELMEC-Leitfaden 2.1 (2001),  
Richtlinie 2009/23/EG, OIML R 76-1

Gegenstand:

Object:

Auswertegerät/Indicator

Typ:

Type:

TM

Kennnummer:

Serial No.:

Prüfscheinnummer:

Test Certificate No.:

Datum der Prüfung:

Date of test:

Anzahl der Seiten:

Number of pages:

Geschäftszeichen:

Reference No.:

Benannte Stelle:

Notified Body:

D09-07.21 2. Revision

D09-07.21 Revision 2

13

PTB-1.12-4065118

0102

Im Auftrag

On behalf of PTB

Dr. Oliver Mack

Braunschweig, 16.09.2013

Siegel

Seal



Im Auftrag

On behalf of PTB

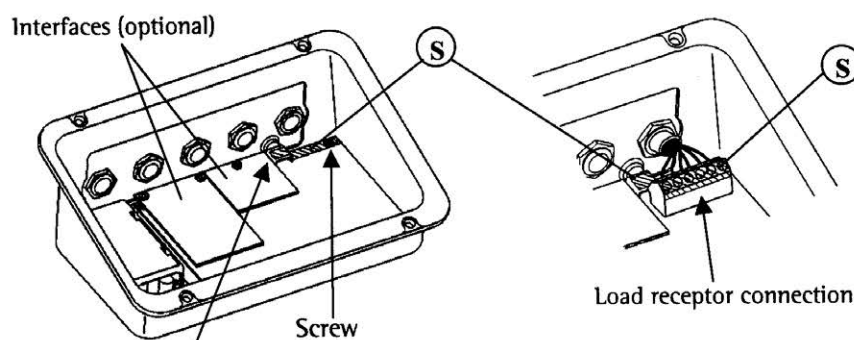
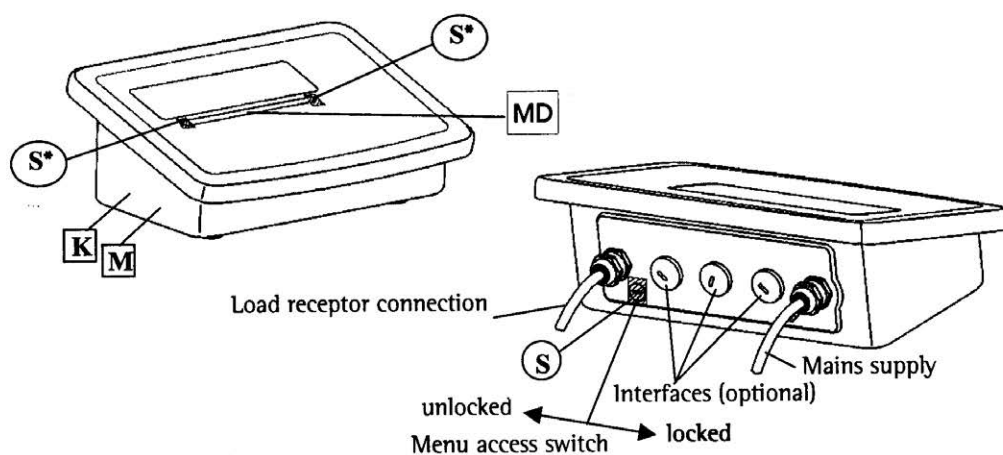
Timo Schwabe

R3-0025 i

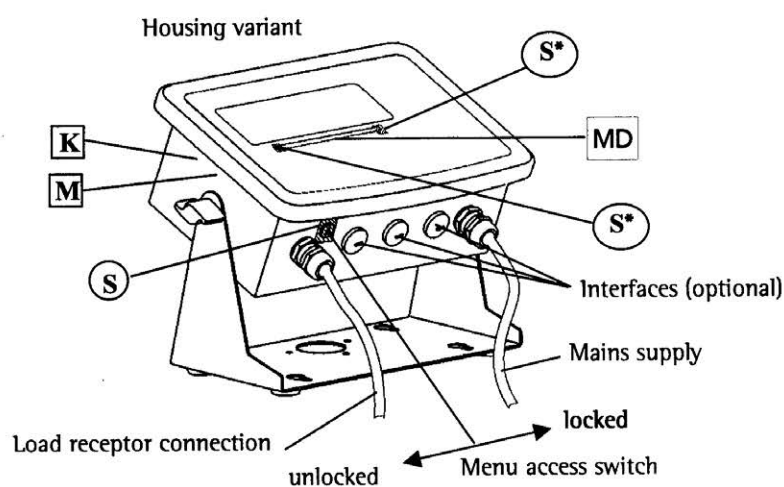
Prüfscheine ohne Unterschrift und Siegel haben keine Gültigkeit. Dieser Prüfschein darf nur unverändert weiterverbreitet werden. Auszüge bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.

Test Certificates without signature and seal are not valid. This Test Certificate may not be reproduced other than in full. Extracts may be taken only with the permission of the Physikalisch-Technische Bundesanstalt.



**Plates and Markings**

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

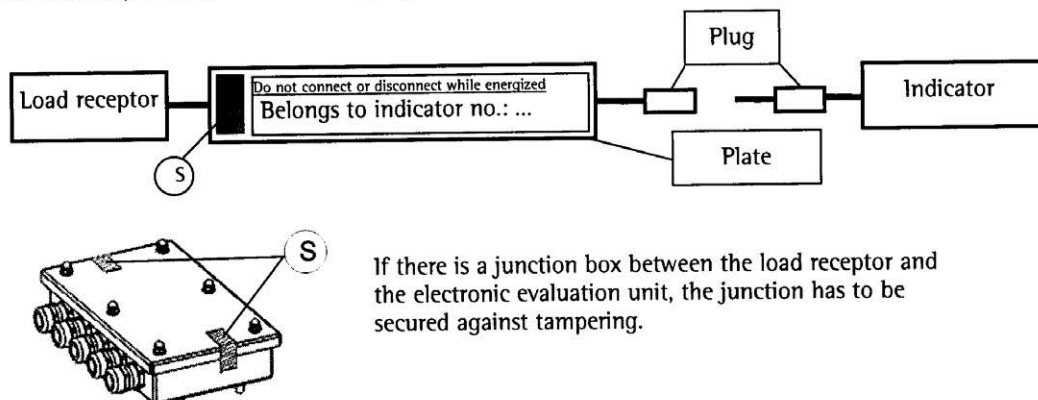


PPMW270307e

Type of weighing instrument: MINECOMB    Type of indicator: TM  
EC type-approval certificate: T11379    + test certificate D09-07.21

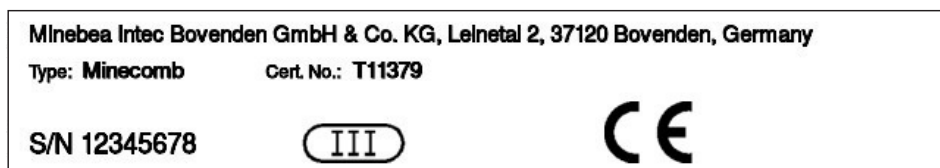
- K** Descriptive plate (ID label) with CE mark  
**M** Metrology sticker  
**S** Protective mark (self-adhesive mark or seal)  
**S\*** Protective mark, only for transferable labels (detachable labels that remain intact after removal)
- T** Plate with model designation  
**MD** Metrological data: Max, Min and e

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



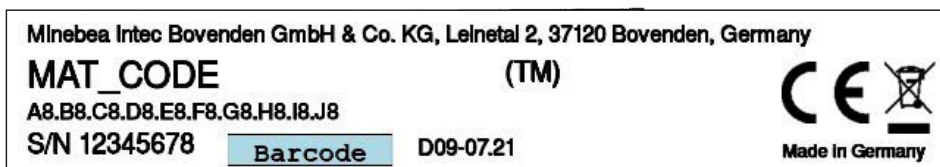
#### Example of descriptive plate on a weighing instrument

**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: MINECOMB Type of indicator: TM  
EC type-approval certificate T11379 + test certificate D09-07.21



## Herstellerbescheinigung Manufacturer's Certificate

Hersteller  
Manufacturer

Sartorius Industrial Scales GmbH & Co. KG  
Leinetal 2, D-37120 Bovenden, Germany

bescheinigt in alleiniger Verantwortung, dass das Betriebsmittel  
*certifies under sole responsibility that the equipment*

Geräteart  
Device type

Midrics Komplettwaage  
*Midrics Complete Scale*

Baureihe  
Type series

MWabc-.....-.... mit / with Option Y2

a = 1 or 2; b = P oder/or S; c = 1 oder/or 4

auf das sich diese Bescheinigung bezieht, in der von uns in Verkehr gebrachten Ausführung mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt (siehe Seite 2) gemäß den Bestimmungen der „Richtlinie 94/9/EG des Europäischen Parlaments und des Rates vom 23. März 1994 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen“. Das Produkt wird wie folgt gekennzeichnet:

*to which this certification relates in the form as delivered complies with the following standard(s) or other normative document(s) (see page 2) pursuant to the provisions of the "Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres". This product is labelled as follows:*



II 3G Ex nA ic IIC T4 Gc  
II 3D Ex tc IIIC T80°C Dc  
SIS14ATEX006X

Sartorius Industrial Scales GmbH & Co. KG  
Bovenden, 2014-04-04

Dr. Bodo Krebs  
Senior Vice President

Dr. Dieter Klausgrete  
Head of International Certification Management

Diese Erklärung bescheinigt die Übereinstimmung mit der genannten EG-Richtlinie, ist jedoch keine Zusicherung von Eigenschaften. Bei einer mit uns nicht abgestimmten Änderung des Produktes verliert diese Erklärung ihre Gültigkeit. Die Sicherheitshinweise der zugehörigen Produktdokumentation sind zu beachten.

*This declaration certifies conformity with the above mentioned EC Directive, but does not guarantee product attributes. Unauthorised product modifications make this declaration invalid. The safety information in the associated product documentation must be observed.*

SIS14ATEX006-00.de,en

1 / 2

PMF: 65797-000-58

OP-113-fo3

Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:

*Compliance with the Essential Health and Safety Requirements has been assured by compliance with:*

EN 60079-0: 2012

Explosionsfähige Atmosphäre – Teil 0: Geräte – Allgemeine Anforderungen  
*Explosive atmospheres – Part 0: Equipment – General requirements*

EN 60079-11: 2012

Explosionsfähige Atmosphäre – Teil 11: Geräteschutz durch Eigensicherheit „i“  
*Explosive atmospheres – Part 11: Equipment protection by intrinsic safety „i“*

EN 60079-15:2010

Explosionsfähige Atmosphäre – Teil 15: Geräteschutz durch Zündschutzart „n“  
*Explosive atmospheres – Part 15: Equipment protection by type of protection „n“*

EN 60079-31:2009

Explosionsfähige Atmosphäre – Teil 31: Geräte – Staubexplosionsschutz durch Gehäuse „t“  
*Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure „t“*

\* \* \* \* \*

#### Technische Daten / *Specifications:*

Umgebungstemperatur / *Ambient temperature range:* -10°C ... +40°C

IP-Schutz / *IP protection:* IP6x

Versorgungsspannung / *Supply voltage*

Standard: 100-240 Vac, 50/60 Hz, 23VA (max), Um = 250V  
Option L8: 24 Vdc, 12 W (max), Um = 30 V

Option L9: Interner Akku / *internal rechargeable battery*

\* \* \* \* \*

#### Besondere Bedingungen für den sicheren Gebrauch / *Special conditions for safe use:*

Sicherheitshinweise 36418-750-16  
*Safety instructions 36418-751-16*

\* \* \* \* \*

#### Prüfbericht / *Test Report*

SLI.14.ATEX.003 (Sartorius Lab Instruments GmbH & Co. KG, Goettingen, Germany)

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# 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.

Confirm the password as entered

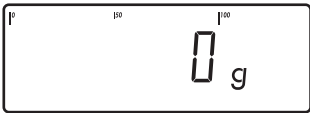


Return to next higher menu level



**→T←** press and hold

Save setting and exit the operating menu



**General Password:**  
**40414243**





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Date: November 2018