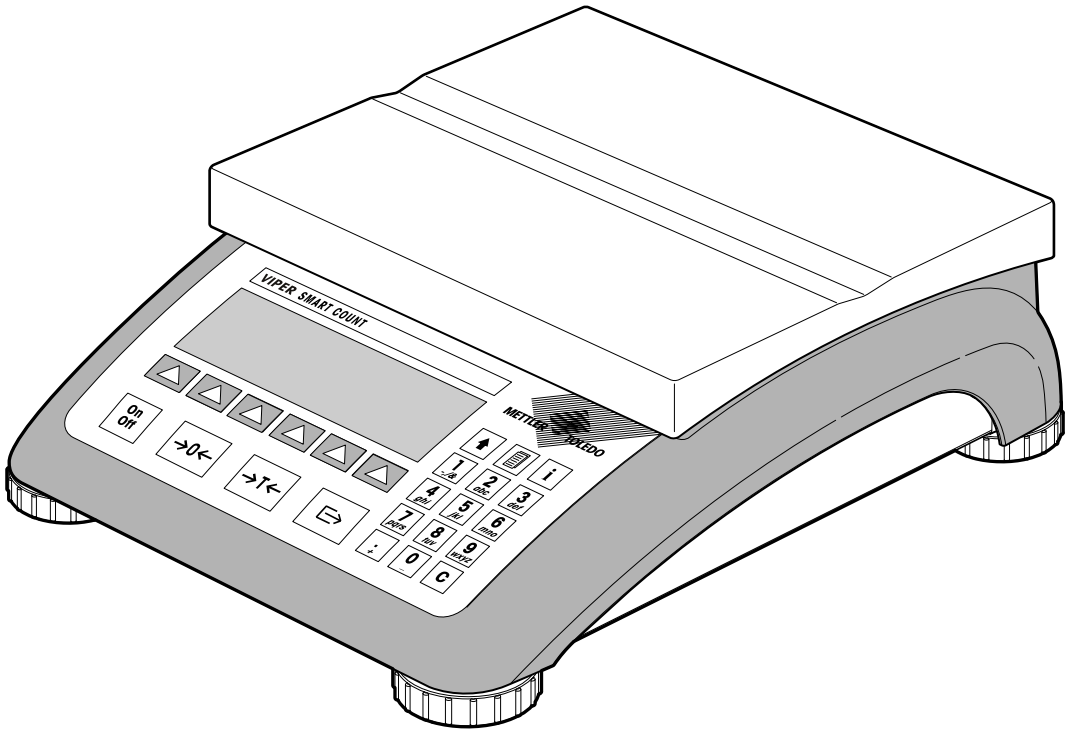
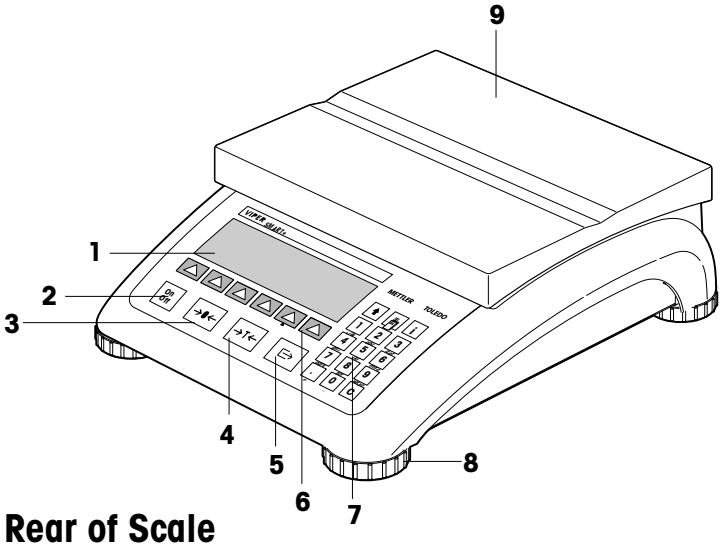
METTLER TOLEDO

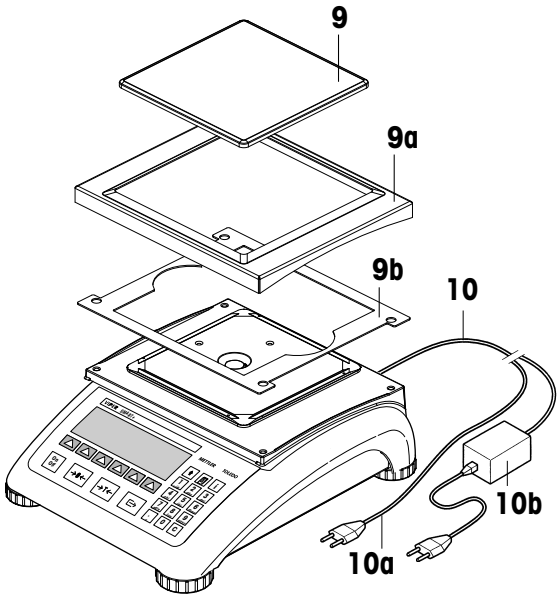
# Operator manual

# METTLER TOLEDO
# Viper Smart Count

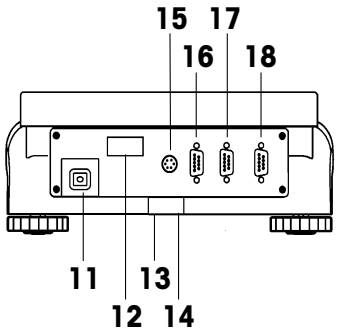


## Overview

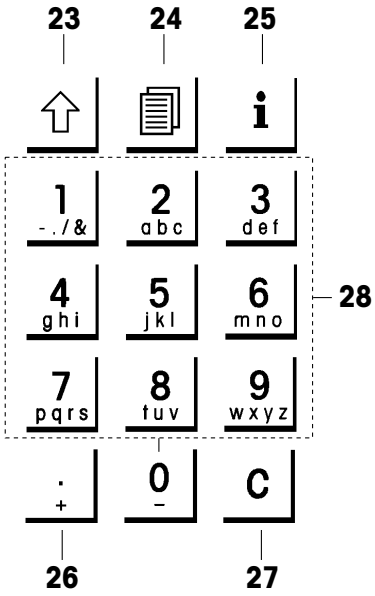


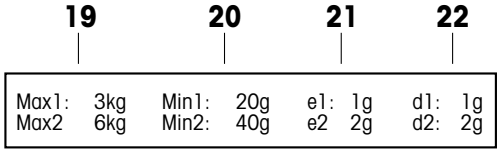

## Rear of Scale



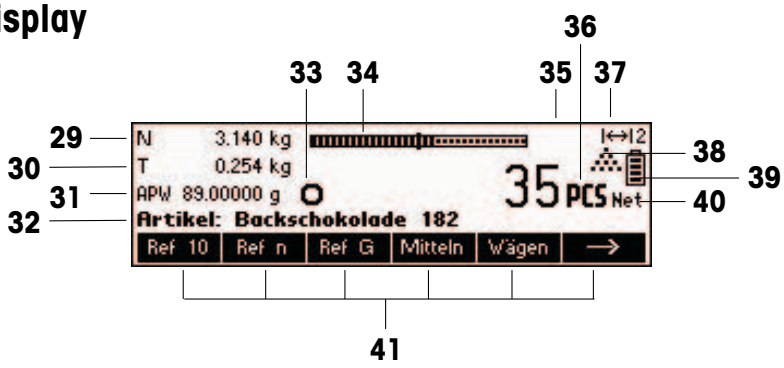

## Keypad




## Scale specifications (example)




## Display



**Overview**

**1** Display

**2** On/Off key

**3** Tare key

**4** Zero key

**5** Enter key

**6** Command softkeys

**7** Keypad

**8** Adjustable feet

**9** Weighing pan

9a: wind protector

9b: shield

**10** Power supply:

10a: power cord (scale w/o battery)

10b: AC adapter (scale with battery)

**Rear of scale**

**11** Power cord or jack for AC adapter

**12** Model plate

**13** Hole for anti-theft device

**14** Spirit level (only on certified scales and those with MonoBloc weighing cells)

For Standard:

**15** PS2 connector for keyboard and/or BCR (Barcode reader)

**16** COM3 (RS232C interface)

**17** COM2 (RS232C interface)

**18** COM1 (RS232C interface)

For Optional Analogue Base:

**15** PS/2 connector for keyboard and/or BCR (Barcode reader)

**16** Analog Base

**17** COM3 (RS232C interface)

**18** COM1/2 (RS232C interface), to access COM2 (Printer only) use included Y-cable

**Scale specifications**

**19** Maximum loads (ranges 1/2)

**20** Minimum loads (ranges 1/2)

**21** Verification scale interval (certified scale) (ranges 1/2)

**22** Max. resolution (ranges 1/2)

**Keypad**

**23** Shift key

**24** Database key

**25** Info key

**26** Special characters key

**27** Clear key

**28** Numeric/alphanumeric keys

**Display**

**29** Info line 1

**30** Info line 2

**31** Info line 3

**32** Info line 4

**33** Stability detector

**34** Weighing range bar graph

**35** Active scale (in 2-scale systems)

**36** Unit

**37** Weighing range display

**38** Piece counting symbol

**39** Battery discharge status

**40** Net weight indicator

**41** Softkeys 1…6

# 1 Setting up the scale

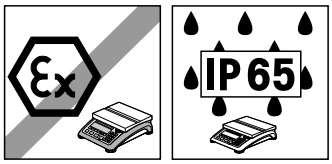
Please read through these operating instructions carefully and adhere to them at all times. If you discover that materials are missing or that the wrong ones have been supplied, or if you have any other problems with your scale, please refer to the dealer and salesperson concerned, or if necessary to the METTLER TOLEDO representative responsible.

## 1.1 Unpacking and checking contents

Remove the scale and accessories from the packaging and check the delivered items:

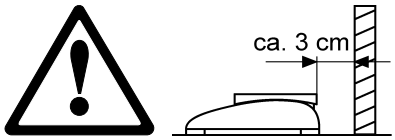
- Terminal and weighing platform with installed weighing plan and level indicator (certified scales only)
- Operating instructions (this document)
- Special accessories (if any) as per packing list

## 1.2 Safety and environment




Do not use the scale in **hazardous areas** (unless it is clearly identified as being approved for these areas).

For service in **wet areas or dusty environments**, or if **wet cleaning** is necessary, scales with **IP 65 ingress protection** must be used. But even these scales must not be used in environments where there is a risk of corrosion. The scales must never be drenched or immersed in liquid.




If the **power cord** is damaged, the scale must no longer be operated. Therefore check the cable regularly and ensure that a free space of about 3 cm is left at the rear of the scale, so that the cable is not kinked too severely.

Never tamper with the **retaining screws for the load plate support** underneath the weighing pan.

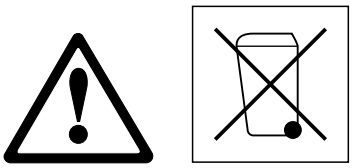
When the weighing pan is removed, **never insert a solid object underneath the load plate support**.

Never open the scale by removing the **screws in its base**.

Use only **approved accessories and peripherals**.

Handle the scale with **utmost care**; it is a precision instrument. Blows on the weighing pan must be avoided, and heavy overloads must not be placed on it.

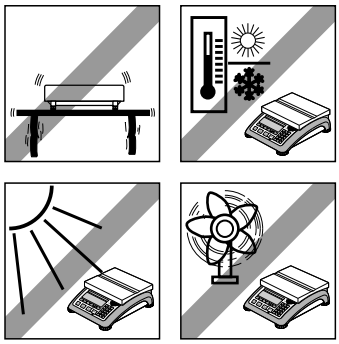
Important instructions when using Viper scales in the **food sector**: those parts of the scale can come into contact with food products have smooth surfaces and are easy to clean. The materials used do not splinter and are free from contaminants. In food processing areas, it is recommended that a **protective cover** (accessory) is used. This must be cleaned regularly, just like the scale itself. Damaged or heavily contaminated protective covers must be replaced immediately.



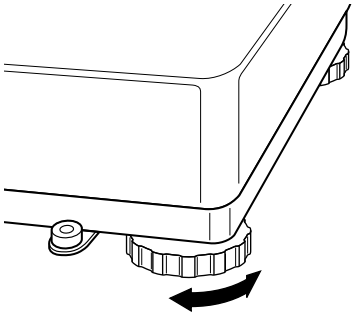
When the scale is finally **taken out of service**, observe the current environmental regulations. If the scale is equipped with a **battery**, this contains heavy metals and therefore must not be treated as normal refuse! Local regulations for disposing of environmentally hazardous substances must be complied with.

## 1.3 Positioning and leveling the scale

The correct location is a decisive factor in ensuring accurate weighing results.

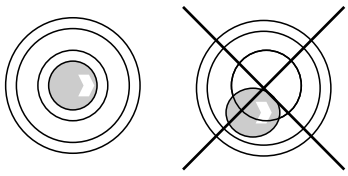


- Choose a stable and vibration-free location (particularly important for high-resolution scales using Mettler Toledo MonoBloc technology). Place the scale on a surface that is as horizontal as possible and strong enough to bear its weight when fully loaded.
- Check the ambient conditions.
- Avoid:
  - direct sunlight
  - strong drafts (e.g. from fans or air conditioning systems)
  - excessive temperature fluctuations.



Turn the adjustable feet so that the scale is horizontal. If a spirit level is filled, the bubble must be located within the inner circle.

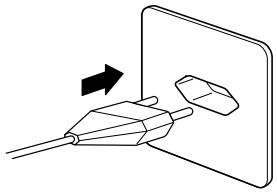
**Note:** The Viper Smart Count has a special filter that accelerates certain procedures (zeroing, taring, determining the reference weight for piece counting) in a non-tranquil environment. This inevitably means that there is a slight loss of accuracy with the results. For high-precision results, care must be taken to ensure as tranquil and stable an environment as possible, so that the filter is not activated.



**Major changes in geographical location:**

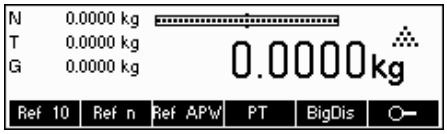
Every scale is set by the manufacturer to suit the local gravitational conditions (geographical adjustment value) in the geographical zone to which the instrument is supplied. If a major change of geographical location takes place, this setting must be adjusted by a service technician or a new setting made. Certified scales must, in addition, be recalibrated in accordance with national certification regulations.

## 1.4 Connecting to power supply



Before connecting the power supply plug or AC adapter (AccuPac version), verify that the voltage stated on the model plate is the same as the local power line voltage.

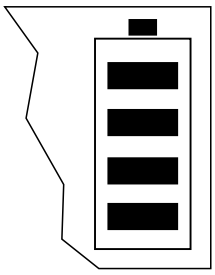
Connect the power cord plug or the AC adapter plug to the supply, then connect the AC adapter (AccuPac version) via the jack at the rear of the scale.




Powering up the scale initiates a display test in which all the segments and then the software version are briefly displayed. Once the decimal zero appears in the display, the scale is ready to operate.

For maximum possible precision, adjust/calibrate the scale after installing it (Chapter 5.4.1). **Note**: Certified scales must be adjusted by an authorized organization. Please consult your dealer.

## 1.5 Battery operation



Scales with a built-in battery (AccuPac) can, under normal operation conditions, work independently of the AC power line for about 8 hours. Immediately the AC power supply is interrupted (by withdrawing the power cord plug or if there is a power failure), the scale switches automatically to battery operation. Once the AC power supply is restored, the scale reverts automatically to AC operation.

The battery symbol indicates the current discharge status of the battery (1 segment corresponding to about 25% capacity). If the symbol flashes, the battery must be recharged.

A discharged battery requires at least 8 hours until it is recharged. During the charging process, work with the scale can continue, but under these conditions, a longer charging time is needed.

The battery is protected against overcharging, and the scale can therefore remain permanently connected with the AC power line without any problems.

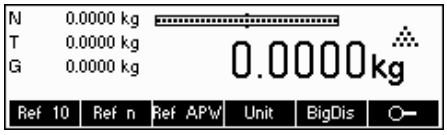
# 2 Basic functions

This Chapter describes how to switch the scale on and off, zero and tare it, weigh materials and record the results.

All displays are based on default settings "English".

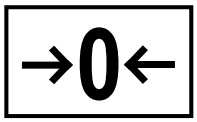
## 2.1 Switching on and off and zeroing


Briefly pressing «**On/Off**» key switches the scale on or off.




The scale carries out a display test (Chapter 1.4). Once the weight display appears, the scale is ready to operate and automatically zeroed.

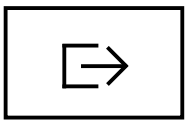
**Note:** The screen display shown here may not necessarily be the same as the display appearing on your scale. Please refer to Chapter 0 on how to navigate within the 'Vision Setup'-menu and how to define softkeys for each function.



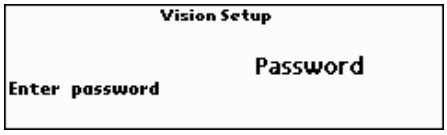

Note: If necessary, the scale can be zeroed at any time with the line «**→0←**» key.

## 2.2 Setting date and time

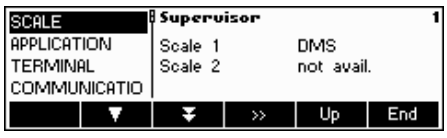
Time can be set in 24 hours or 12 hours format, and the date in European or US format.



Press the «⇨» key continuously for about 2 seconds.




Briefly press the «⇨» key again.





Select **TERMINAL** by pressing the «▼» key and press the «»» key.


Select **Device** and press the «»» key.


Select **Date Time** by pressing the «▼» key and press the «»» key.


Select **Date** by pressing the «▼» key and press the «**Edit**» key.

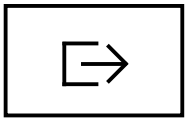

Use the numeric keypad to enter the date and confirm with the «**OK**» key. Incorrect inputs can be deleted with the «**Erase**» key. The «←» and «→» keys can be used to scroll the characters that are entered.

To set the correct time, do the same procedure but select **Time** instead of **Date**.

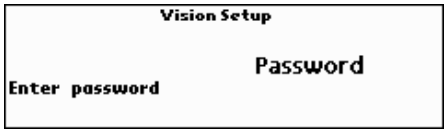
To leave Vision Setup, press the «**End**» key. Save changes and confirm by pressing the «**Yes**» key

## 2.3 Language settings

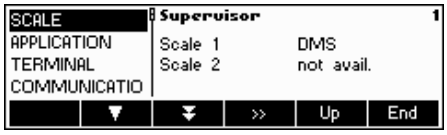
Language can be set into US English, English, German, French, Spanish or Italian.



Press the «⇨» key continuously for about 2 seconds.




Briefly press the «⇨» key again.




…appears on the screen.

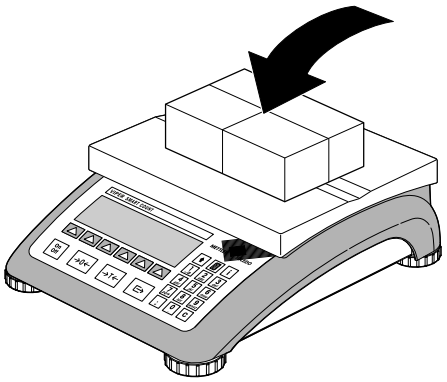

Select **TERMINAL** by pressing the «▼» key and press the «»» key.


Select **Device** and press the «»» key.

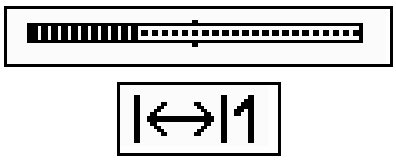

Select **Language** by pressing the «▼» key and then press the «**Edit**» key.


Choose the desired language and then press the «**OK**» key.

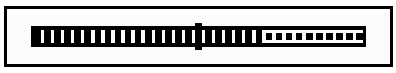
## 2.4 Simple weighing

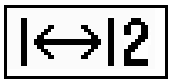


Place the object to be weighed on the scale.



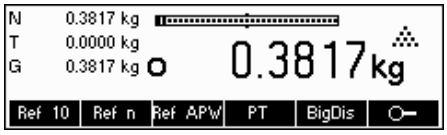


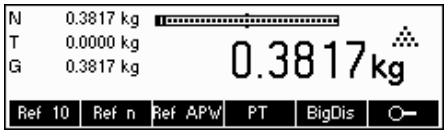



The bar graph at the top of the display shows how much of the weighing range is being used and how much is still available (as % of total scale capacity). The range symbol at the upper right corner of the display shows the first or second half of the range of the maximum load. **Note**: The number changes from 1 to 2 when set for 2 weighing ranges:
Example: 6 kg scale:
1. Range 0 – 3 kg Resolution 1 g
2. Range 0 – 6 kg Resolution 2 g

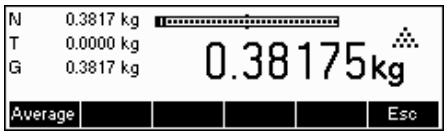
In order to switch from the 2nd range back to the 1st range, the load must first be removed from the scale or it must be zeroed. MonoBloc scales will automatically switch back to fine range upon load removal.




Wait until the stability detector (a small ring at the left edge of the display) disappears, then…




… read the indicated net weight and press the «⊙–» key.




The «⊙−» key enables the weighing result to be displayed in control mode, i.e. with a higher resolution.

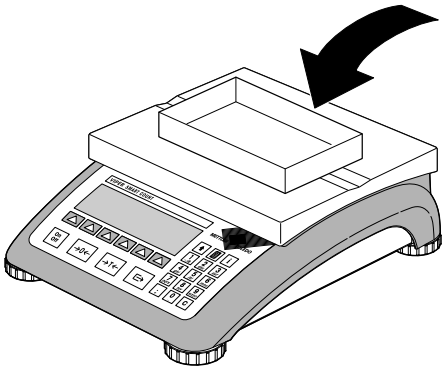
**Note:** Each of the highest possible resolutions will be displayed in DMS scales. In MonoBloc scales, the resolution will be ten times higher. Control mode is not available if the maximum resolution has already been selected in Vision setup (Chapter 0).

Press «**Average**» key to perform average weighing or press «**Cancel**» key to go back to the normal weighing mode. The averaged value corresponds with the average weight and the procedure takes about 20 seconds.

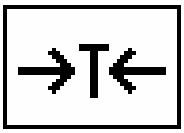
## 2.5 Weighing with tare

The tare can be specified by placing the weighing container on the scale or by entering the tare weight numerically. The two possibilities are described below. Moreover, the gross and net weights can be determined separately.

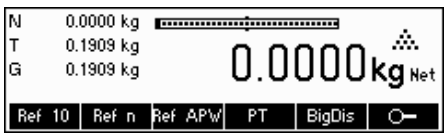
### *2.5.1 Taring by placing the weighing container on the scale*



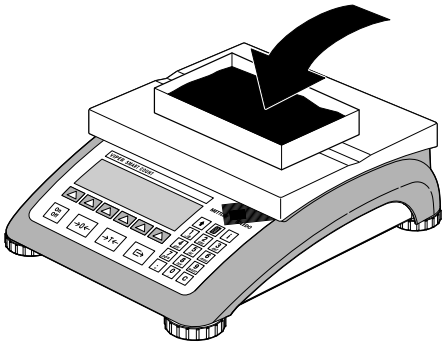
Place the **empty** weighing container or packaging on the scale.



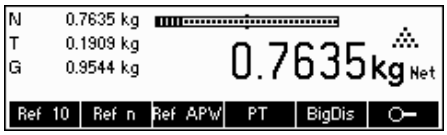

Press the «→T←» key briefly to tare the scale.




The zero display and the "**Net**" (net weight) symbol appear. Note: If the **automatic tare function** has been activated in Vision Setup (Chapter 0), there is no need to press the «→T←» key.



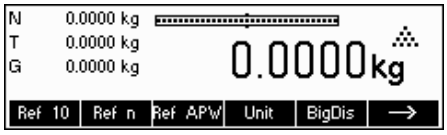
Place the material to be weighed in the container, then…



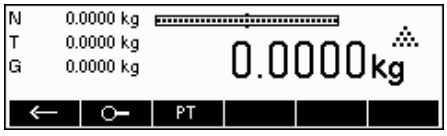

… read the result (net weight of the weighing sample).

**Note**: The tare weight is retained until either a new tare is determined, or the scale is set to zero or switched off. If the automatic taring function is active, the tare is automatically cleared when weighing is completed and the weighing pan emptied; the scale is then ready for the next taring and weighing.

## *2.5.2 Entering the tare weight numerically (pre-tare)*




**Note:** The «**PT**» softkey is not given as a standard softkey, because pre-tare can also be inputted using the Short Input Mode (see Chapter 3.1). This function key must thus be defined separately in Vision Setup. To define function keys, see Chapter 5.5.6. You will find an overview of all function keys that can be defined in Chapter 5.3.2. Press «→» to show other available function keys and press «←» to go back to the first page of the function keys.

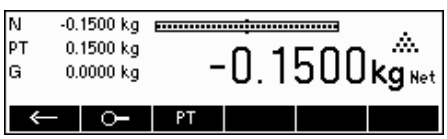



Press the «**PT**» softkey.


… appears on the screen.

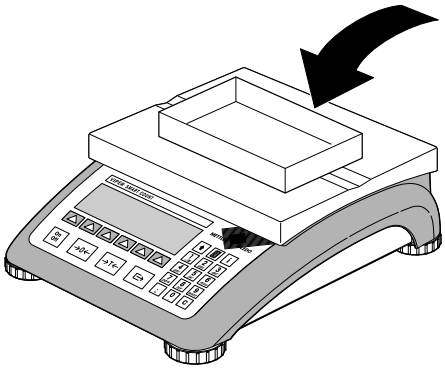
Press the «**New**» softkey to enter the tare weight. If you want to work further with other tare weights, you can set and define the «**Add. Tare**» key. The additional tare weights will be added to the actual tare weights. The «**Undo**» softkey deletes the last defined "Add. Tare Weight". The «Delete» softkey deletes the whole tare weight.


Press the «**New**» softkey now and using the numeric keypad, enter the **known tare weight** in the current weighing unit and confirm with «**OK**».

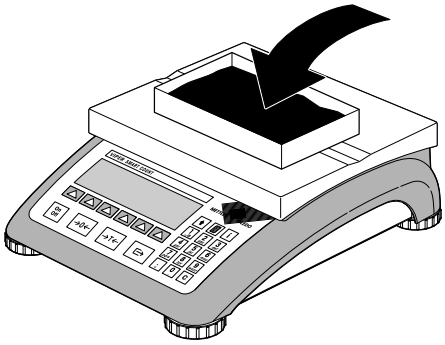



The tare values entered appear in the display with a negative sign and the symbol "**Net**" (net weight). As soon as the weighing container with the corresponding weight is placed on the scale, the zero display appears.

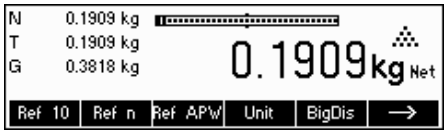
## *2.5.3 Determining the gross and net weights*



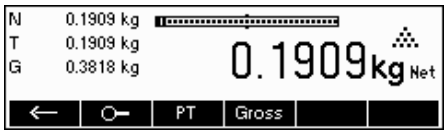
Place the **empty** weighing container or packaging on the scale and then press the «→T←» key briefly, or press the «**PT**» softkey if a **known tare weight** has already been established.



Place the material to be weighed in the container, then…

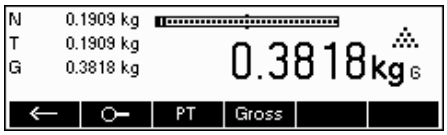



… read the indicated net weight. Scroll on the «→» key.



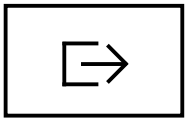

Press the «**Gross**» softkey. This function causes the gross weight to be displayed (the "**G**" symbol appears and replaces the "**Net**" symbol).

**Note:** «**Gross**» is not given as a standard softkey and must be defined separately in Vision Setup. In order to define the «**Gross**» softkey, see Chapter 5.5.6.




After a few seconds, the scale goes back automatically to net weight display.

## 2.6 Recording weighing results



Press the «⇨» key to send the current weighing result to the peripheral device (printer, computer) via the interface. Factory default configures interface 1 for connection to a printer.

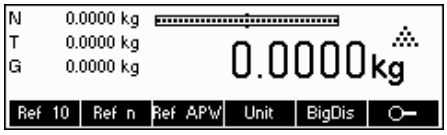
Please refer to Chapter 5.3.4 for instructions on configuring the interface(s).

# 3 Enhanced functions

This Chapter describes the Smart Count features that simplify working with the application.

## 3.1 General Info

Smart Count provides several features which make working with the application easier.



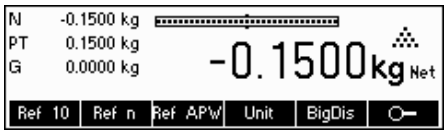

**Short Input Mode**

For some Smart Count functions, it is possible to use a short-cut method of user input.

As in the example for entering the pre-tare weight in Chapter 2.5.2, the normal procedure for initiating user input is to press the function softkey first before entering the data. However, it is also possible to key in the data first prior to selecting the function the data is intended for.


This example shows how to enter the pre-tare weight using short-input mode.


While in standby mode, use the numeric keypad to enter the **known tare weight** in the current weighing unit.




Then press the «**PT**» softkey or the «→**T**←» key to set this value as the pre-tare weight.

The result is the same as in Chapter 2.5.2.

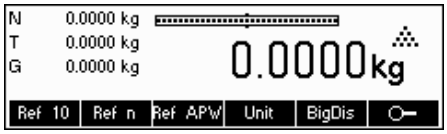
Short-input mode works with the following function softkeys:

| | |
|---|---|
| «**Ref X**» | The value keyed in replaces the value of X (Chapter 5.5.1) and perform a reference weight determination using the value as reference number of pieces (Chapter 4.1.1). Default value for X is 10. |
| «**Ref n**» | The value keyed in will be used as the reference number of pieces for the reference weight determination. |
| «**Ref APW**» | The value keyed in will be used as the average piece weight. |
| «→**T**←» | The value keyed in will be used as the pre-tare weight. |
| «**PT**» | The value keyed in will be used as the pre-tare weight. |
| «⇨» | The value keyed in defines the number of printouts (only for label printer). |
| «→**0**←» | The value keyed in defines the threshold for the Gross Weight Alarm. |


Smart Count recognizes if the function softkey pressed is not compatible with short-input mode and will display a warning indicating so.

## 3.2 Database

The following describes the operations for working with the article database.

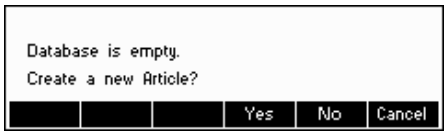



Briefly press the «» key.

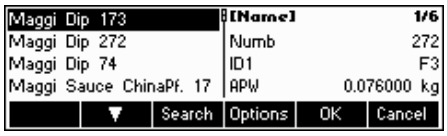

If any of the ID's in 'Vision Setup → APPLICATION → Database → ID1- ID3' are active (Please refer to Chapter 5.5.2 on how to use the ID's), you need to make a selection of which item to edit. In this example, ID1 "Softkey" and "Printout" were set to "Batch".

To enter the article database menu, press the «**Datab.**» softkey.

**Note**: If 'Vision Setup → APPLICATION → Database → ID Overview' is not active, this screen will be skipped and you will be brought directly to the article database menu.




The first time the article database is accessed, the database will be empty and Smart Count will prompt you to create a new article.




If articles have been previously defined, you will be presented with several options for working with the article database:

Press the «▲» key to select the previous article in the list.

Press the «▼» key to select the next article in the list.

Press the «**Search**» key to find an article in the list.

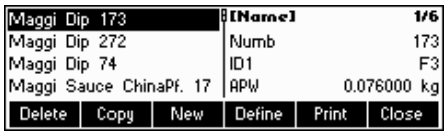
Press the «**Options**» key to perform other operations on the currently selected article (Chapter 3.2.1).

Press the «**OK**» key to make the currently selected article the active one for use with the various Smart Count applications and leave the article database menu.

Press the «**Cancel**» key to leave the article database menu. The article that was active before entering the article database menu will be retained except if that article was deleted. Other changes made to the database with the «**Options**» key will not be undone.

### *3.2.1 Database editing functions*

The following describes various operations that could be performed on articles.




With the desired article selected in the article list, press the «**Options**» key. You can then choose an operation to be done on the article.

**Note**: If a password was defined in 'Vision Setup → APPLICATION → Database → Article → Password' (Chapter 5.5.2) then you will be asked to enter the password before you can modify the selected article.


Press «**Delete**» to remove the current article from the database. You will be asked to confirm deletion of an article.

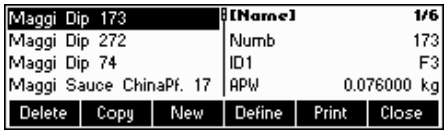

Press «**Copy**» to create a duplicate of the selected article. All the parameters of the current article, except the name and number, will be copied into the newly created article.

Press «**New**» to create a blank article.


Press «**Define**» to modify the selected article. Select the desired parameter by using the «▲», «▼», or «▼▼» softkeys, then press «**Edit**» to modify the selected parameter.


A «>>» softkey in place of the «**Edit**» softkey indicates that there is a submenu for the selected item.

Press «**Print**» to print out the parameters of the selected article.



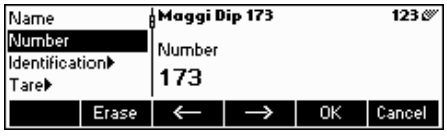

Press «**Close**» to leave the article editing menu and return to the article selection menu.

## *3.2.2 Defining an article*

The following describes the parameters of a Smart Count article.

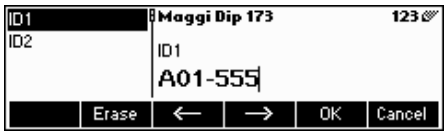

**Name**

The name of the article can contain up to a maximum of 24 alphanumeric characters. If 'Vision Setup → APPLICATION → Database → Article → Search criterion' is set to "By name", this parameter is used for searching in the article database.




**Number**

The number of the article can contain up to a maximum of 24 alphanumeric characters. If 'Vision Setup → APPLICATION → Database → Article → Search criterion' is set to "By number", this parameter is used for searching in the article database.




**Identification / ID1 and ID2**

Additional identification parameters for the article that can contain up to a maximum of 24 alphanumeric characters. These parameters could be used to provide additional information about the article in the report printouts.


**Tare**

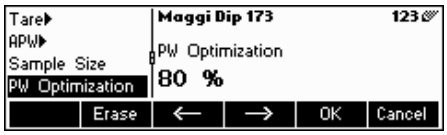
Pre-defined tare weight for the article. The pre-defined tare weight can both be weighed-in or entered manually. Enter the weight value manually, in case the tare weight is already known.


**APW**

Define the average piece weight of the article. It is possible to set the average piece weight for the article by performing a reference weight determination (Chapter 4.1.1) or by manually entering a known piece weight (Chapter 4.1.2).

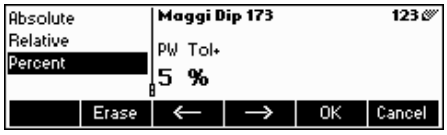

**Sample size**

Define the reference number of pieces. This value will override the one set in 'Vision Setup → APPLICATION → Counting → Ref X' (Chapter 5.5.1) while the article is active.



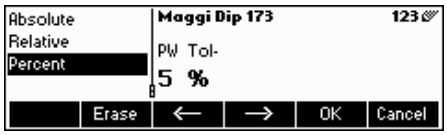

**PW optimization**

The correction factor for optimizing the piece weight. The previous value of the APW will be adjusted by this factor in relation to the new APW. **Note**: This works only if PW Tol+ and PW Tol- are set and the APW is within the tolerances, and also if a reference quantity (reference number of pieces) is defined.
See also below Example.




**PW Tol+**

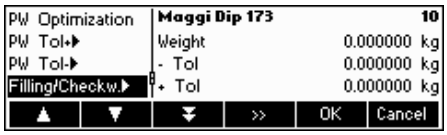
The upper limit for a new average piece weight. If the new piece weight is above this value, a warning will be displayed prompting the operator whether or not he wants to accept the new piece weight. **Note**: APW must already be defined before setting the PW Tol+, otherwise the PW Tol+ entry will be cleared.




**PW Tol-**

The lower limit for a new average piece weight. If the new piece weight is below this value, a warning will be displayed prompting the operator whether or not he wants to accept the new piece weight. **Note**: APW must already be defined before setting the PW Tol+, otherwise the PW Tol+ entry will be cleared.

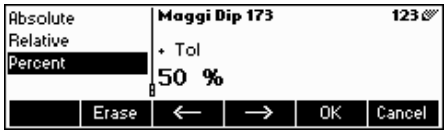
**Example:** In order to have the wearing down of the filling machine reflected, the already existing value should be rated higher with 80% whereas the new piece weight is rated with 20%.
To ensure that only 'good' pieces are used to build a new reference, they are only allowed to derive max. 5% from the currently saved average piece weight.
Currently saved average piece weight = 0,1000kg
PW Optimization = 80%
PW Tol + = 5%
PW Tol - = 5%
New piece weight = 0,0970kg ( = within the tolerance +/- 5% of 0,1000kg)
**=> new piece weight in the database = 0,0994kg** (0,1000kg x 80% + 0,0970kg x 20%)




**Filling/checkweighing nominal**

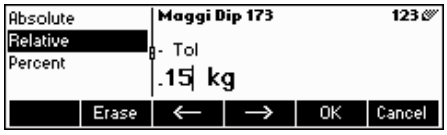
The nominal value used for the filling (Chapter 4.8) and checkweighing (Chapter 4.9) applications. It is possible to define the nominal value in pieces or as weight value. This parameter must be filled in first before defining Tol+ and Tol-.





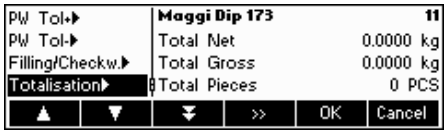

**Filling/checkweighing Tol+**

The upper limit for filling (Chapter 4.8) and checkweighing (Chapter 4.9) applications. It is possible to define this parameter as an absolute value, relative to the Nominal, or as a percentage of Filling / Nominal.




**Filling/checkweighing Tol-**

The lower limit for the filling (Chapter 4.8) and checkweighing (Chapter 4.9) applications. It is possible to define this parameter as an absolute value, relative to the nominal, or as a percentage of nominal.



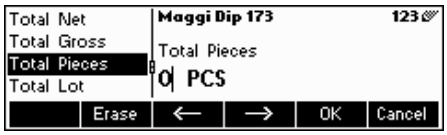

**Totalisation**


**- Totalisation total net**

The total net weight for the Totalisation application (4.7)


**- Totalisation total gross**

The total gross weight for the Totalisation application (Chapter 4.7)




**- Totalisation total pcs.**

The total number of pieces for the Totalisation application (Chapter 4.7)


**- Totalisation total lot**

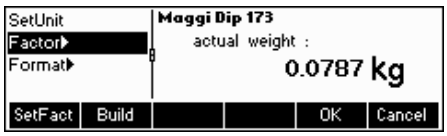
The total number of lots for the Totalisation application (Chapter 4.7)


**Custom Unit**

This application enables the user to define any unit (mass) for each article. (See also Chapter 4.10).

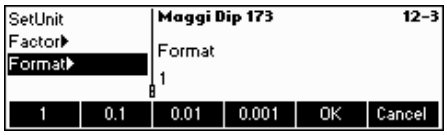

**Unit**

Short-cut for the custom unit. This name can contain a maximum of seven characters.


**Factor**

Factor of the custom unit. This can be determined or manually keyed in, in case it is already known. This menu appears only if "Unit" is chosen.




**Format**

The type of format in which "Custom Unit" should be displayed.

## *3.2.3 Erasing of individual article attributes*

In order to ease working with the data base, Viper Smart Count provides a possibility for erasing of individual article attributes.

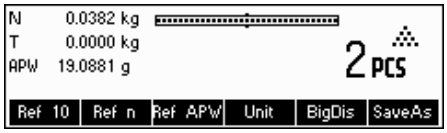
Please proceed like this:
Choose the attribute to be erased (e.g. Free Unit).
Press the 'C'-key now to erase it.

Note: Erasing of the article name is only possible if the search criterion is 'By number' (see chapter 5.3.2). Similar, article number can only be erased if the search criterion is 'By name'

### *3.2.4 Save As Article function*

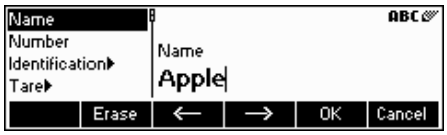
In the course of working with Smart Count, you may wish to save the current state into an article. The Save As Article function makes this possible.

Define a softkey for "Save As Article" in the softkey configuration (See Chapter 5.5.6). A new softkey «**SaveAs**» will be created.




In this example, a reference weight determination has already been performed (Chapters 4.1.1 and 4.1.2).

Press the «→» softkey once, if necessary, to scroll to the next set of softkeys. Press the «**SaveAs**» softkey…




…Smart Count asks for the Name you wish to use for this article.

**Note:** If 'Vision Setup → APPLICATION → Database → Article → Search criterion' is set to "By number", Smart Count will ask you for the number. Please note that Article Name cannot be used also as a Number.

From this point on, the procedure is the same as defining a normal article (Chapter 3.2.2).


Note however, that the parameter APW is already defined and its value is set to the APW that was active before «**SaveAs**» was pressed.

Aside from the APW, the article parameters that will also be saved are Tare, Sample Size, the Filling/Checkweighing parameters, and the Totalisation parameters.

## 3.3 Gross Weight Alarm

Using the Short-input mode (see chapter 3.1) it is possible to define a Gross Weight Alarm. In case it is defined, there will be an uninterrupted alarm beep as soon as the gross weight reaches the defined threshold. The beep sound will stop as soon as the weight is either below the threshold or any key is pressed.

Note: After switching off the alarm using a key press, it will only become active again if the gross weight felt under the threshold for a while before reaching it again. The Gross Weight Alarm can be deactivated by the 'C' key or by setting the threshold parameter to 0.

## 3.4 SmartManager

To make working with the article database even easier, as well as to save the settings of the scale and its configuration, the Viper Smart Count comes with its own computer program (SmartManager). This program offers you the possibility to administer and manage your article data and also gives you the ability to import and export files using MS Excel.

Viper Smart Count is able to get direct and immediate access to archived database using SmartManager. Smart Count functions in this case, as "Client". Hence it directly gets hold of data on an external database. In this mode, its own internal databank will not be used and will stay unchanged. Please make the necessary settings of "Access" on "External" in Vision Setup → APPLICATION → Database.

This functionality is also possible to connect a scale that has access to its own database, with several scales. If the internal database of Viper Smart Count is being used, SmartManager can create a backup copy of the database and this will be played back again on the scale.

- Install the SmartManager. (Requires MS Windows 95 or higher)

- Ensure that Viper Smart Count scale is connected to the PC via a serial interface cable. SmartManager can also run on a serial, an optional USB or an optional Ethernet interface. It is possible to use any of the 3 COM ports of the scale but it is necessary to set the correct mode and parameters for the COM port. Set the respective COM settings as follows: Mode – Dialog / Baud – 38400 / Parity – 8-none / Handshake – Xon/Xoff.
  **Note:** COM2 cannot be used for scales with built-in analog option.

- Start up the SmartManager program by double-clicking the icon.

- The SmartManager program attempts to reserve the COM1 port of the PC. If it is not successful, e.g. COM1 is not installed or is used by another program, an appropriate message is shown. Should this be the case, select the appropriate port in the "Interface Configuration" under the Options menu.

- To check if the PC and scale are successfully connected, select "Help/About". An animation will indicate whether the SmartManager program was able to successfully communicate with the scale. In case there is no connection between the scale and the PC, check again if the interface settings between the scale and the PC are correct. They should be the same. In case you have verified this, press "i" or select "Help/About. SmartManager will again attempt to make a connection with the scale and the computer.

- If you have determined that the SmartManager program can successfully communicate with the scale, you may start the desired operation in the SmartManager program.

## 3.5 FlashLoader

The Viper Smart Count software is stored in flash memory and the FlashLoader program enables you to upgrade the software of your scale when updates are available.

**Note:** This should only be operated by an authorized personnel. Your should always make a back-up copy of your data prior to performing this procedure.

To be able to update your software using the FlashLoader, you will need the following:

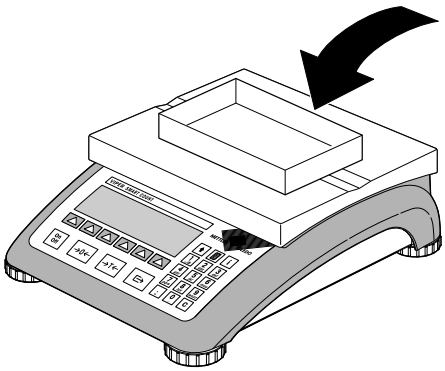
- PC with Microsoft Windows ® operating system (version 95, 98, NT 4.0, 2000, or XP)
- Computer-to-scale connection cable (RS232 cable, 9-pin sub-D plug m/f, order number 00410024)
- FlashLoader program

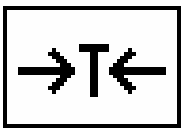
The FlashLoader program will guide you through the updating process.

# 4 Application

Your scale has a number of powerful application functions that can be activated in the menu (see Chapter 5.5.1). This chapter describes the some of the functions that have been activated at the factory.

## 4.1 Counting pieces into a container





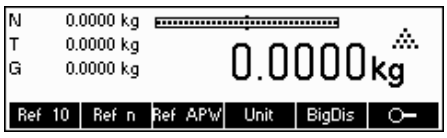

Place **empty** container on the scale and tare with the «→**T**←» key.

**Note**: If the **automatic taring** function is active (Chapter 5.4.3), you need not press the «→**T**←» key, because the scale registers the tare weight automatically as soon as the container is placed on the weighing pan.

Before your scale can be used for counting parts, it must know the average piece weight (the so-called **reference**). The reference is then used to do the counting. The reference can be determined by placing a number of pieces on the scale. If the piece weight is known, it can be manually entered and used as the reference.

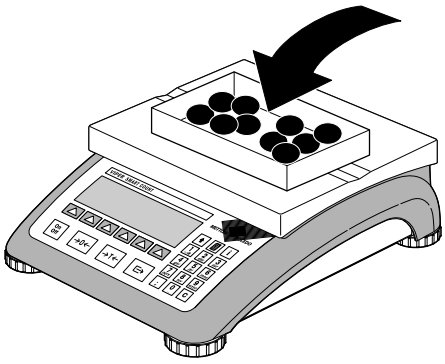
### *4.1.1 Determining the reference by placing pieces on the scale*

The softkeys "Ref X" and "Ref n" are already given as standard function keys. In case they are not visible on the display, define a softkey for "Ref X" and "Ref n" in the softkey configuration (See Chapter 5.5.6). After the softkeys have been defined, do the following steps:

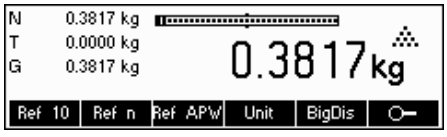



…appears on the screen (standard setting for Ref X = 10)

**Note:** The standard value for "X" in Ref X can be defined in Setup (see Chapter 5.5.1)



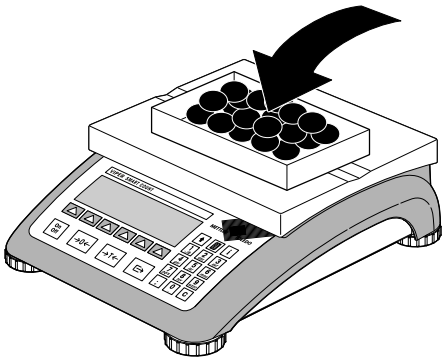
…place 10 pieces of materials to be weighed to determine the reference weight.




Press the «**Ref 10**» key.

**Note:** If a **different number of pieces** has been placed on the scale, please use the Short Input Mode (see Chapter 3.1). The value that you have entered for "X" is still saved, and will not change until after you overwrite it with a new value.


A **reference weight** has been established.



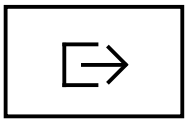
If a **different number of pieces** has been placed on the scale, press the «**Ref n**» key and choose from among the choices of **5, 20, 30, 40 or 50 pieces**. If the number of pieces is different, choose the «**Var**» key and enter the desired number of pieces.

**Note:** The Short Input Mode is also available for the functions «**Ref X**» and «**Ref n**» (see Chapter 3.1).


Once a reference has been determined, you can use the «**Weigh**» key to switch back to the weight display at any time.

**Note:** This function is not given as a standard function key, because Gross, Tare and Net will be continuously shown on the upper left of the display. To activate it, proceed similar like activating «**Ref X**» or «**Ref n**» (see Chapter 5.5.6).

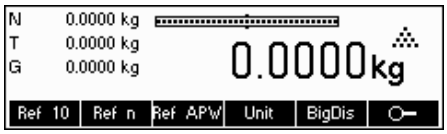

Press «**Count**» key to switch back again to counting mode.



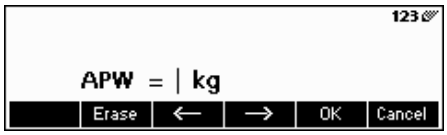
You can use the «⇨» key to transmit the piece counting result via the interface to a peripheral device (printer, computer) (for sample report see Chapter 6.2).

## *4.1.2 Entering the reference when the piece weight is known*

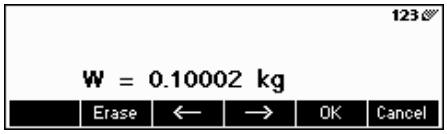
The softkey "Ref APW" is already given as a standard function key. In case it is not visible on the display, define a softkey for "Ref APW" in the softkey configuration (See Chapter 5.5.6). After the Ref APW softkey has been defined, do the following steps:




In standby mode, press the «**Ref APW**» key.




Enter piece weight, example: 0.02931 kg



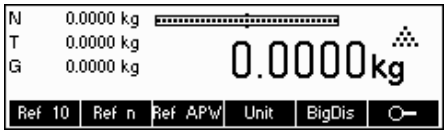

Press the «**OK**» key.


The scale has established a known reference weight and is now ready for piece counting.

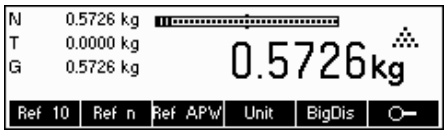
## 4.2 Counting out pieces out of a container

Counting out pieces from a weighing container differs in a few essentials from counting them in (Chapter 4.1).

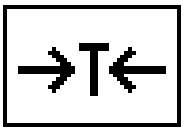
### *4.2.1 Determine reference by removing pieces*

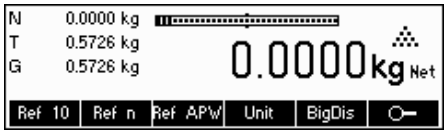



…initially appears on the screen.

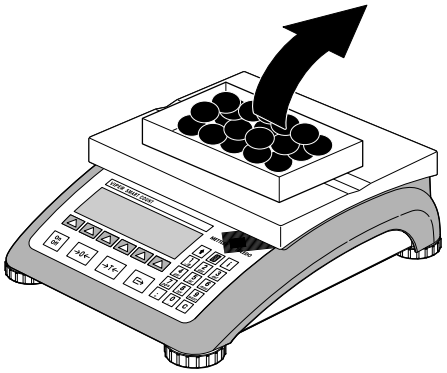



Place the full weighing container on the pan and tare the scale with the «→T←» key.



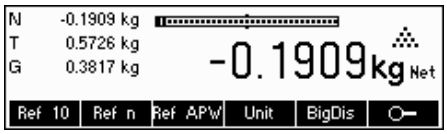




… appears on the screen again.



Remove the reference number of pieces from the weighing container.

Remove further pieces until the desired number has been reached.




… a negative weight value appears on the screen.


Press the «**Ref 10**» or «**Ref n**» keys to determine the reference, as described in the previous chapter.

The scale is now ready for piece counting.

## 4.3 Reference optimization

Reference optimization serves to enhance the accuracy of the average piece weight by re-calculating it using a greater number of reference pieces. Reference optimization can be performed either manually or automatically.


**Manual Reference Optimization**

Define a softkey for Reference Optimization in the softkey configuration (See Chapter 5.5.6). The Reference Optimization softkey is displayed as «**RefOpt**» and it will only be active while in piece counting mode. If the scale is in weighing mode, this softkey will not appear even if it is part of the softkey configuration.

To perform a reference optimization at any time, press the «**RefOpt**» softkey. The average piece weight will be re-calculated using the current weight and the current number of pieces on the scale. At each optimization, the message "**PW Opt**" appears briefly and the new total number of pieces is then displayed.


**Automatic Reference Optimization**

No action is required during operation for automatic reference optimization and it functions both in "Counting in" (Chapter 4.1) and "Counting out" (Chapter 4.2). The "**Auto OPT**" symbol (located near the lower right corner of the screen) appears in the display indicates that automatic reference optimization is switched on.

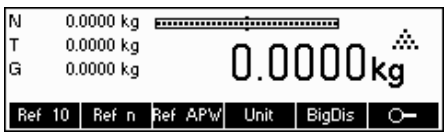
Each time you place additional parts on the scale, it optimizes automatically. You do not have to press a key to perform optimization. At each optimization, the message "**PW Opt**" appears briefly and the new total number of pieces is then displayed.

**Note**: Automatic optimization only functions if the number of additional pieces placed on the scale is not greater than the number already on the weighing pan.

## 4.4 Minimum reference weight

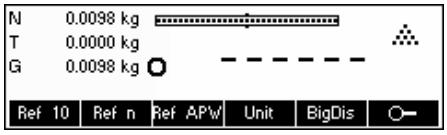
To ensure that a more accurate average piece weight is attained during reference weight determination, it is possible to set a desired minimum percentage accuracy as determined by the reference weight placed on the scale. To enable minimum reference weight checking, set 'Vision Setup → APPLICATION → Counting → Min. Ref. WT' (See Chapter 5.5.1) to the desired percentage accuracy.

To be able to view the percentage accuracy for a reference weight determination, set 'Vision Setup → APPLICATION → Counting → Accuracy Disp.' (See Chapter 5.5.1) to 'On'.



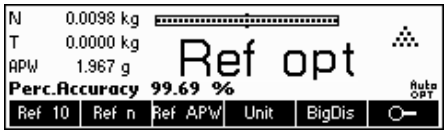

In this example, the minimum reference weight was set to 99.5% and accuracy display is active.


10 samples were placed on the scale and «**Ref 10**» was pressed.



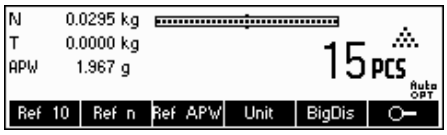

Smart Count calculates the average piece weight as discussed in Chapter 4.1.1 but it has determined that the percentage accuracy for the reference weight is below the value set as Minimum Reference Weight.


It will calculate the number of pieces that you have to place on the pan to reach the desired percentage accuracy.




After placing the specified number of pieces on the scale, the average piece weight will be optimized (Chapter 4.3) and, since accuracy display is active, the percentage accuracy will be displayed for approximately 4 seconds.

Note that in this example, the percentage accuracy is at 99.54% which is above the desired minimum reference weight of 99.5%.




Smart Count is now ready to perform piece counting using the optimized average piece weight.


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

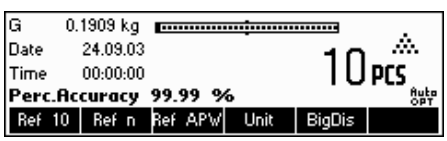
Adding mode works both with "Counting in" (Chapter 4.1) and with "Counting out" (Chapter 4.2).

## 4.5 Using the info key

Use the «**i**» key to call up additional information as defined in the **Info/Help** menu under **Application** (Chapter 5.5.7).


In this example, Info lines 1 to 4 were configured to show the gross weight, date, time, and percentage accuracy respectively.


Pressing the «**i**» key will toggle between a screen that shows the default content of the Info lines and another window that shows the additional information configured such as the Gross Weight, Date, Time and Percentage Accuracy.




For a list of the additional information that can be displayed on the Info lines, please refer to Chapter 5.5.7.

## 4.6 Piece counting with 2-scale systems

You can hook up your Viper scale to a second scale, e.g. a floor scale for counting a large number of pieces that would exceed the capacity of Viper.

In the Vision Menu select the Smart Count operating mode for connecting a second scale. See Chapter 0: Vision setup under "Communications" → "Com1/Com2/Com3" → "Mode".

There are three modes that can be assigned to the second scale:


**Reference** The second scale is to be used for reference weight determination only. The APW will be calculated using the weight placed on the second scale regardless of the active scale. This is used if the second scale has a finer resolution than the Smart Count scale to achieve a more precise piece weight.


**Bulk** The second scale is to be used as bulk weight only. The APW will be calculated using the weight placed on the first scale (Smart Count scale), regardless of the active scale, then the weight on the second scale will be used for counting. This is used if the sample to be weighed is heavier than the maximum load of the Smart Count scale.

**Auxiliary** The second scale can be used as either reference or bulk scale. The reference can be determined and also counted on both scales. The active scale will not be automatically switched after the reference weight determination.

**Note**: The interface of the second scale must be set as follows:

- **For Viper and Spider scales:**
  "Mode": "Dialog" (9600 bd, 8b no parity, Xon/Xoff)
- **For PB-S scales**:
  "Mode": "Host" (9600 bd, 8b no parity, Xon/Xoff)
- **For other METTLER TOLEDO products:**
  MT-SICS-compatible interface (9600 bd, 8b no parity, Xon/Xoff)

**Note:** You can specify in Vision Setup "APPLICATION → Counting → Total Pieces", whether…

- only the counting result of the bulk scale
- or the counting result of the bulk scale and that of the reference scale (both scales together) will be displayed.


When an interface is set to one of the three modes above, the scale switch key will be added to the softkeys. In case it is not visible on the display, define this softkey in the softkey configuration (See Chapter 5.5.6).You can toggle between the two scales with the «⚖» softkey.

To determine reference weight while in Reference or Bulk modes, the scale will automatically switch from reference scale to bulk scale. You can override this automatic switching by keeping the «⚖» softkey pressed for 1 second. Info line 4 will indicate which scale will be used for reference weight determination.

The scale symbol on the top right in the display indicates the active scale: "⚖1" = viper scale, "⚖2" = second scale.

When the second scale is active, you can zero and tare it with the Viper «→0←» and «→T←» keys, respectively.

## 4.7 Totalisation

If the scale is in piece counting mode, you can do several piece counts and then determine the total number of pieces weighed and their total weight. If the scale is in weighing mode, several weighings can also be accumulated to determine their total.

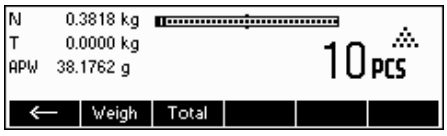
There are several report printouts that are available in the Totalisation application. To select the desired settings and to connect and configure a printer, see Chapter 5.5.4 and Chapter 5.9.3 respectively.

Define a softkey for Totalisation in the softkey configuration (See Chapter 5.5.6). After a Totalisation softkey has been defined, do the following steps:

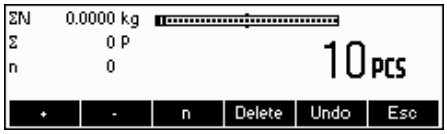

If a weighing container is used, it must be tared.

**Determine the reference** (see Chapter 4.1)

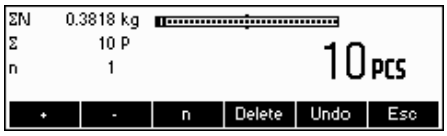

Press the «→» softkey to go to the next menu.



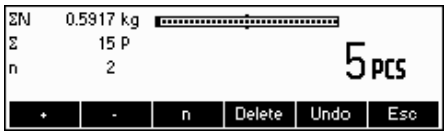

Press the «Σ» softkey to start the totalisation function.



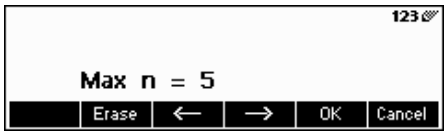

Press the «+» softkey to add the current number of pieces to the total, or the «-» softkey to deduct the current number of pieces from the total.




The quantity of the first lot has been saved in the memory. If Lot printing is active (Chapter 5.5.4) the lot number, net weight and number of pieces will be printed out automatically.




Place the desired quantity of the second lot and press the «**+**» softkey to add again or the «**-**» softkey to deduct.




Press the «**n**» softkey to limit the number of lots to accumulate.


If **Max n** is defined, it will only be possible to accumulate as many lots as the value set. Once the number of lots accumulated reaches the value of Max n, a warning will be displayed indicating that maximum items have been reached.

Press the «**Delete**» softkey to clear all the lots from the memory. A summary report with the total number of lots, total weight, and total number of pieces will be printed out.

Press the «**Undo**» key to discard the last lot added.

To close the Totalisation application at any time, press the «**Cancel**» key. This will return the scale to standby mode but the lots accumulated will be retained in memory.

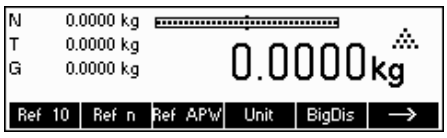
To close the Totalisation application and clear all the lots from memory, press the «**C**» key. This will also generate a summary report.

**Note**: If an article was active when the Totalisation application was started, the Totalisation parameters (Chapter 3.2.2) of the article will be updated by the transactions done with the application. That means the total net or gross weight, the total pieces, and the number of lots will be added to the values already stored in the database for the active article

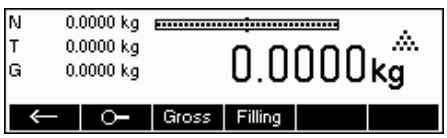
## 4.8 Filling

The filling application simplifies weighing of small parts (e.g. liquid or powder) until a target amount or weight is reached. It provides the user a visual indication of the amount currently on the scale in relation to the target amount. If activated in the Vision Setup, the scale will also beep if the amount is already within the tolerance limits defined.

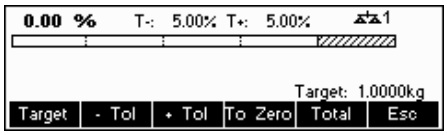
Define a softkey for Filling in the softkey configuration (See Chapter 5.5.6). After a Filling softkey has been defined, do the following steps:



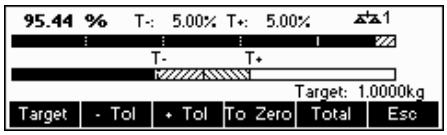

In standby mode, press the «→» softkey to scroll to the next menu.




Press the «**Filling**» softkey.




In this example, **Target** (target weight), **+ Tol** (positive tolerance) and **– Tol** (negative tolerance) have been defined. The first bar graph that appears is the coarse range indicator. The fine range, as shown by the gray area in the bar graph, depends on the tolerance limits set. As the tolerance limits are increased or decreased, the size of the fine range will also be adjusted accordingly.




Place sample to be weighed on the scale.

As soon as the weighed amount reaches the start of the fine range, a second bar graph appears that shows the fine range. For very small tolerance limits, there will be a third-stage indicator that will appear to show the fine range.

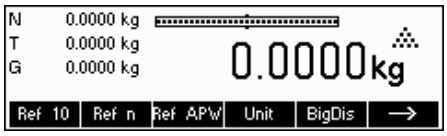
In addition, it is possible to directly switch from Filling to Totalisation. Therefore, simply press «**Accum**» and continue as described in Chapter 4.7 Totalisation fort.

Please refer to the Notes in Chapter 4.9 for additional information.

## 4.9 Checkweighing (+/-)

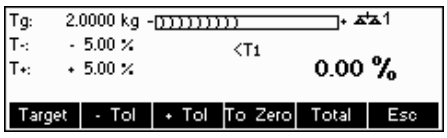
The checkweighing application simplifies verification of sample weights or amounts. It provides the user with visual indicators to show whether or not weight of the sample is within tolerance limits of a specified target weight or amount.

Define a softkey for Checkweighing in the softkey configuration (See Chapter 5.5.6). After a checkweighing (+/-) softkey has been defined, do the following steps:

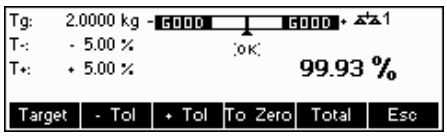



In standby mode, press the «→» softkey to scroll to the next menu.


Press the «**+/-**» softkey.




In this example, **Target** (target weight), **+ Tol** (positive tolerance) and **– Tol** (negative tolerance) have been defined.




Place sample to be weighed on the scale.

The indicators help the user easily verify the weight if the sample is within the targets defined.

In addition, it is possible to directly switch from Checkweighing to Totalisation. Therefore, simply press «**Accum**» and continue as described in Chapter 4.7 Totalisation fort.

**Notes:**

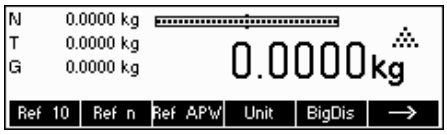
The Filling and CheckWeighing applications use the filling parameters stored in the article database (Chapter 3.2.2) if they are defined and if they are in the same mode (weighing or piece counting). For example, if Filling/Checkweighing Nominal is defined as weight and the scale is currently in weighing mode, it will not be possible to define Target, Tol+, and Tol- while the Filling or Checkweighing applications are active. The values for these parameters will be taken from those defined in the current article. If however, Filling/Nominal is defined as weight and the scale is in counting mode, the Filling parameters of the article will not be used and the Target, Tol+ and Tol- parameters of the Filling or Checkweighing applications will have to be defined inside the application.

Clearing the currently selected article by pressing the «**C**» softkey while in standby mode will not clear the values defined for Target, Tol+, and Tol-. To clear these parameters, the «**C**» has to be pressed while inside the Filling or Checkweighing applications.

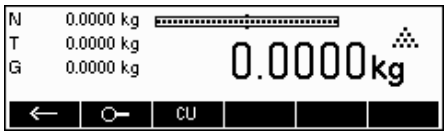
## 4.10 Custom Unit

The Custom Unit weighing function allows weighing using a unit that can customized (a unit specified by the customer). You may choose to use this function through a function key or databank menu.

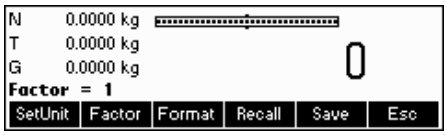
Define a softkey for Custom Unit in the softkey configuration (See Chapter 5.5.6). After a Custom Unit softkey has been defined, do the following steps:




In standby mode, press the «→» softkey to scroll to the next menu.



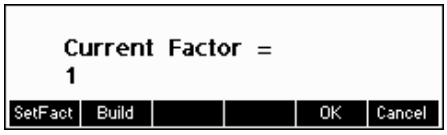

To start the application press the «**CU**» softkey.




From the main Custom Unit screen you can define the text for the custom unit, set the factor to use for weighing, recall previous definitions, or save the current definition.

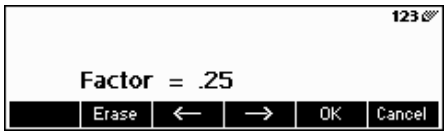
**Note:** The «**Esc**» softkey is available only if a "Custom Unit" is defined in the database.


Press the «**SetUnit**» softkey and enter the abbreviation of the custom unit. Confirm by pressing «**OK**».



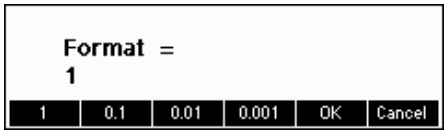

The factor can either be entered manually or can be calculated from the weight of samples placed on the scale.

Press the «**Factor**» softkey. To manually enter the factor, press the «**SetFact**» softkey. To calculate the factor using the weight of samples placed on the scale, press the «**Build**» softkey.




Define the factor manually, by pressing the «**SetFact**» softkey.


To use the automatically calculated factor, place the sample on the scale, press the «**Build**» softkey and enter the reference mass.




To change the resolution of the display, press the «**Format**» softkey and select the desired format.


You can save the factor and unit you have just defined by pressing the «**Save**» softkey. While in this screen, you can delete other Factor/Unit definitions you have already saved or save your current definition.

To save the current definition, press «**Save**» and enter the name you wish to give this definition. You can save up to 25 Factor/Unit definitions.

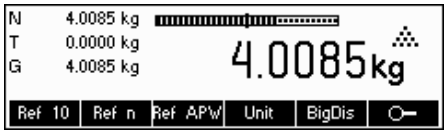

To recall previous Factor/Unit definitions, press the «**Recall**» softkey and select the name of the Factor/Unit definition you wish to use.

## 4.11 High resolution / Average weighing

The "High resolution" function displays the net weight at a higher resolution.

This function allows weighing of unstable goods (e.g. animals) with a higher precision. It takes around 20 seconds to calculate the average weight of the load. This function also works in piece counting mode.

Define a softkey for "High resolution" in the softkey configuration (See Chapter 5.5.6). This softkey is already defined as a standard softkey. After this softkey has been defined, do the following steps:




Press the «⊙—» softkey in order to display the net weight at a higher resolution.

**Note:** When using strain gauge scales, the highest possible resolution will be shown. For MonoBloc scales the resolution will become 10 times higher.


Place the load on the scale and press the «**Average**» softkey. Smart Count will then take weight readings for 20 seconds and average these weight values.

The "Average" function can also be placed as a function key outside the "High resolution".


After 10 seconds, Smart Count will display the average weight of the load. Note that the "AVERAGE" indicator on the upper right side of the display is visible while in Average weighing mode.

While in this mode, the weight displayed is frozen and small variations in the actual weight due to the unstable load will not be reflected on the display.

If the load changes more than 10% then the weight display will be released and Average weighing is no longer active.

You can leave this function by pressing the «**Esc**» softkey.

**Note:** Certified scales will automatically leave the "High resolution" function after 3 seconds.

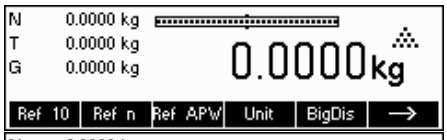
## 4.12 Alibi memory

The alibi memory is an optional fitting, depending on the individual specification of the Viper Smart Count.

The alibi memory serves to store weighing data of the past, in order to have them accessible at a later time in case of necessity. As soon as a 'stable value' is generated by the scale, it will be stored in the alibi memory. Such stable values can be generated by either pressing the ⇨ key, after responding to certain SICS commands (S, SU, SR, SRU, P101, P102, PRN etc.), the 'Toledo Continuous' command P or the Auto Print mode.

Define the "Alibi memory" softkey in "Vision Setup → APPLICATION → Function keys", as discussed in Chapter 5.5.6. This softkey is already defined as a standard softkey.

To be able to save in the alibi memory, "Vision Setup → APPLICATION → Alibi memory → On/Off" should be turned "On".




In standby mode, press the «→» softkey to scroll to the next menu.


In order to go to the Alibi memory application, press the «**Alibi**» softkey.


The entries that have been previously saved will be shown. Press the «*****» softkey to directly go to the last (newest) entry. This is marked by an asterisk as well.


Press the «**Search**» softkey in order to reach the search mask of the alibi memory. With this function, you can define search criteria that will serve as a basis for searching entries. Press the «**Change**» softkey and select the desired search criteria. There are two steps to follow when entering search criteria: First the "From Border" should be entered and then afterwards the "To Border". The search criteria "Scale" and "Auxiliary Field" does not give out any information regarding "From/To".

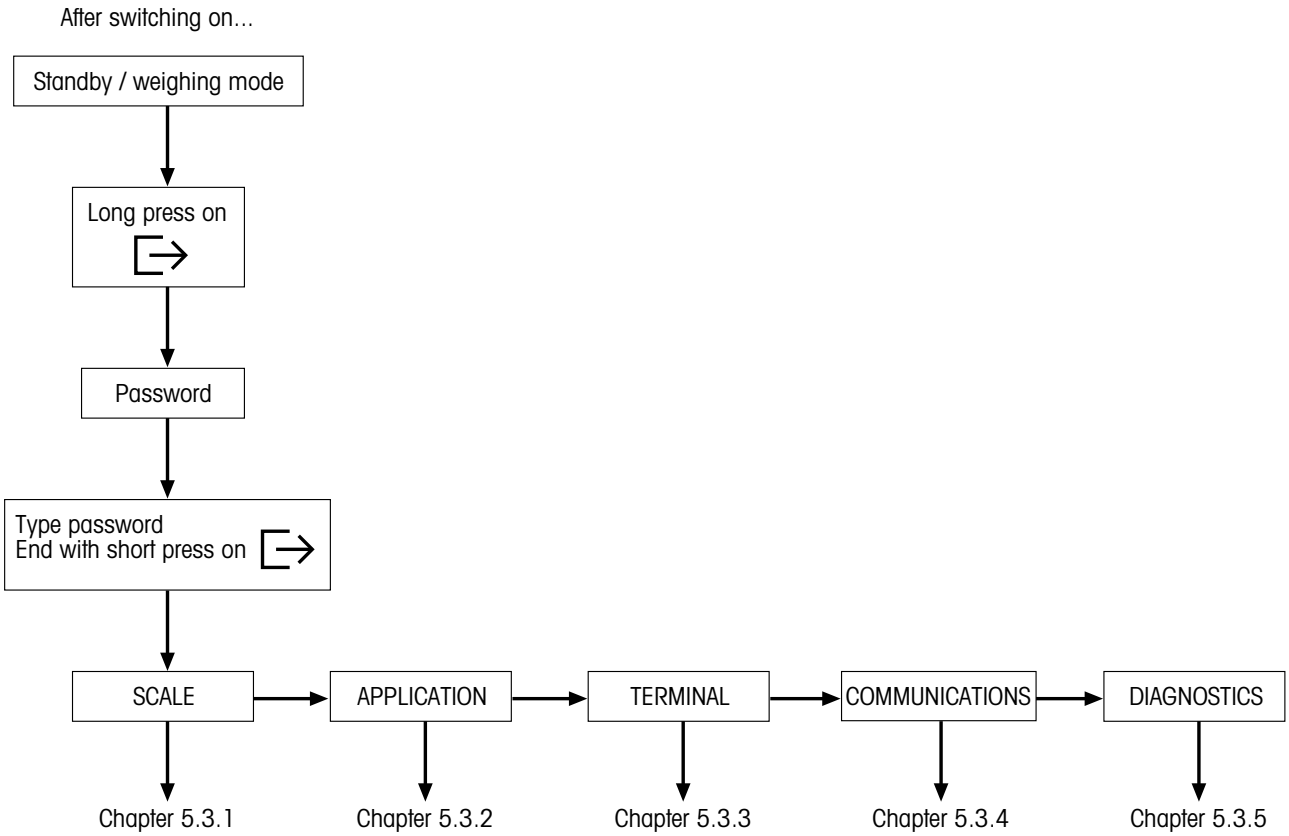

Press the «**Details**» softkey in order to reach the detail mask. It represents the alibi data of the chosen entries located on the side of the screen. This can be printed out.

# 5 Vision setup

Vision Setup can be used to change the settings of the scale and to activate functions, thereby allowing the scale to be adapted to individual weighing needs.

**Important:** To avoid incorrect operation of the scale in normal use, Vision Setup can be protected with a password. The scale differentiates between a user and a supervisor. When the scale leaves the factory, the entire menu can be accessed by both user and supervisor. **We therefore recommend you to define your own supervisor password as soon as you set up the scale (Chapter 5.7)**. This limits access by the user to a smaller number of menu items (calibration, and settings for energy-saving mode, as well as date and time).

## 5.1 Overview and operation




Navigating through the Vision Menu is done through the six softkeys found at the bottom of the display. The softkeys change depending on the currently selected menu item to allow the user to perform the appropriate action for the selected item.

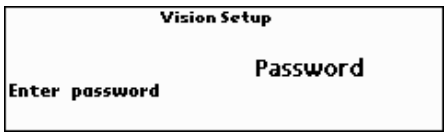
This key selects the previous item listed on the current menu.

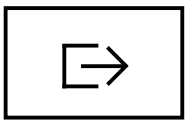
This key selects the next item listed on the current menu.

This key selects the first item on the next "page" of the menu. If all the items for the current menu are visible (i.e. there are four or less items for the current menu), this key is not visible.

| | |
|---|---|
| >> | This key enters the submenu of the currently selected item. If the currently selected item does not have a submenu, this key is not visible. |
| Up | This key leaves the current submenu and goes one level up. If the Vision Menu is already at the top level, pressing this key is similar to pressing «**End**» (see below). |
| Edit | This key allows the user to edit the value or setting of the currently selected item. If the currently selected item contains a submenu, this key is not visible. |
| Yes | Some menu items perform specific actions rather than editing. Pressing this key directs the Vision Menu to perform the action specified by the currently selected menu item. |
| End | This key can be pressed at any time to leave the Vision Menu. The Vision Menu will then prompt the user to save or discard the changes the user has made. The user may also press «**Cancel**» at this time to go back to the Vision Menu. |
| i | This key allows the user to get an overview of the current location within the Vision Menu structure. |

## 5.2 Calling up the menu and entering the password



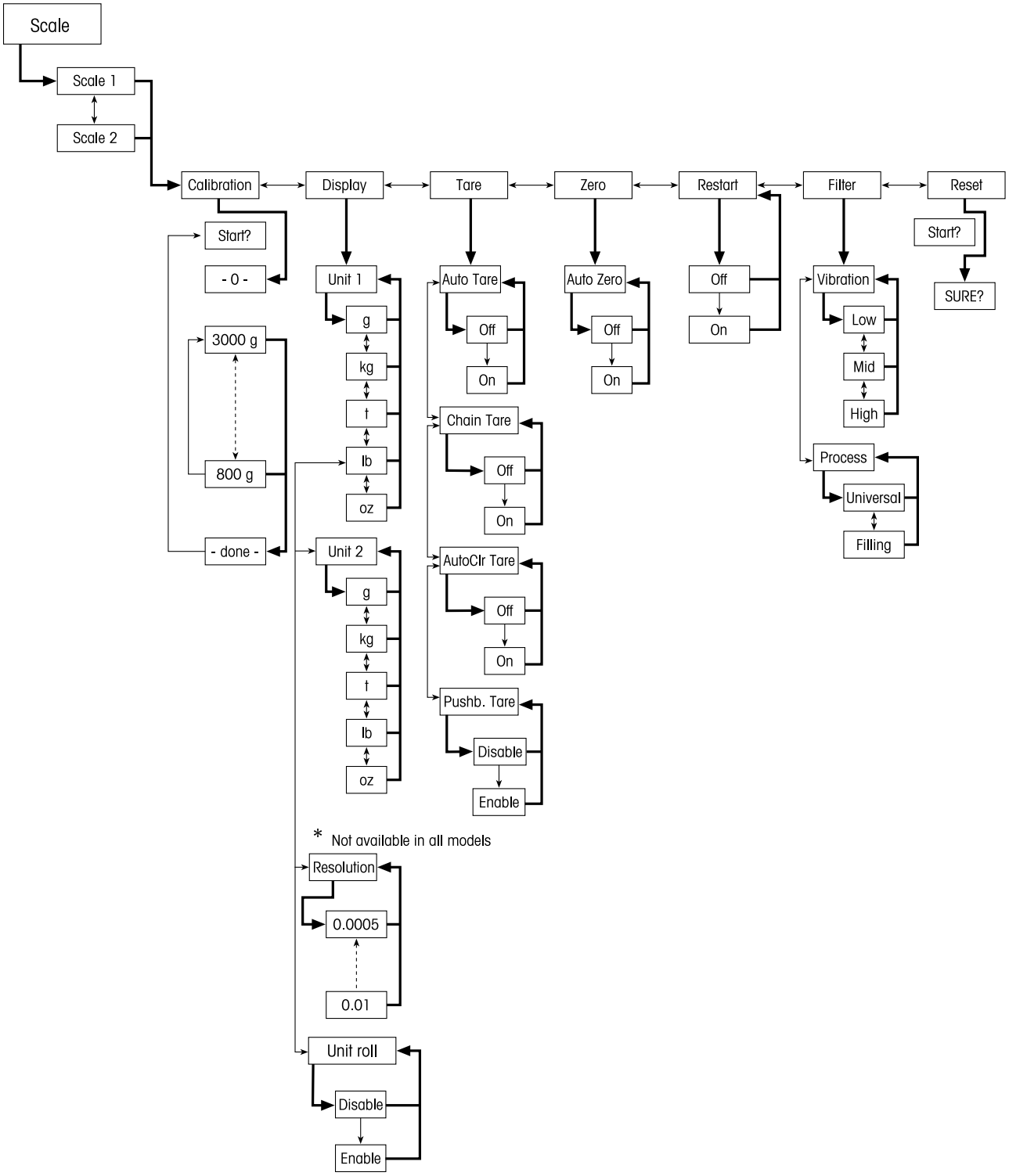
Press the «⏎» key and hold it down until the prompt to enter the password appears.

User: No password required, just press the «⏎» key.

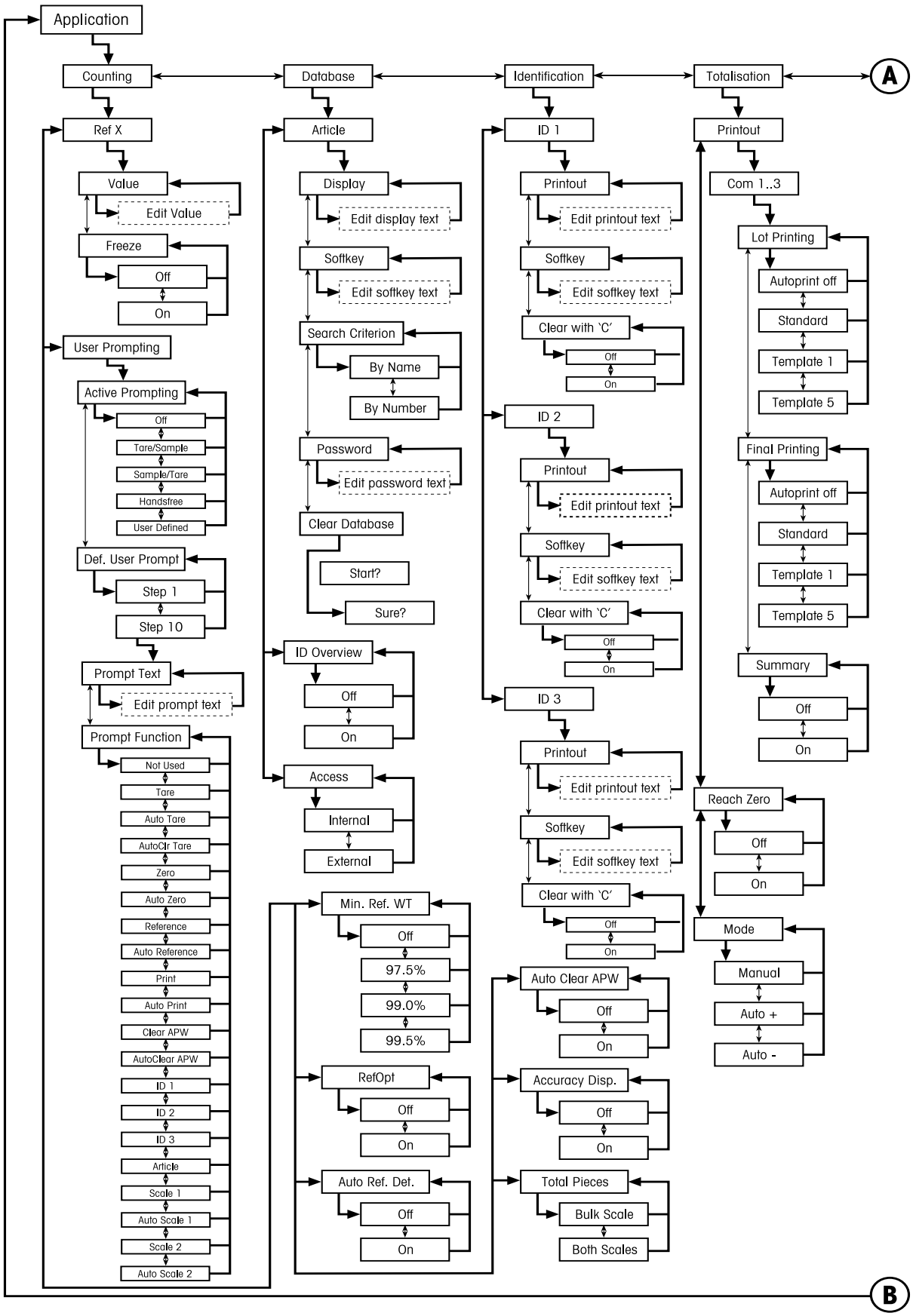
**Supervisor**: Enter password (sequence of keystrokes, Chapter 5.7) **immediately** and confirm with the «⏎» key. Otherwise after a few seconds the scale returns to weighing mode. If an incorrect password is entered, the menu cannot be called up. **Note**: When the scale leaves the factory, no supervisor password is defined, so when the password is requested, just press the «⏎» key.

## 5.3 Menu overview

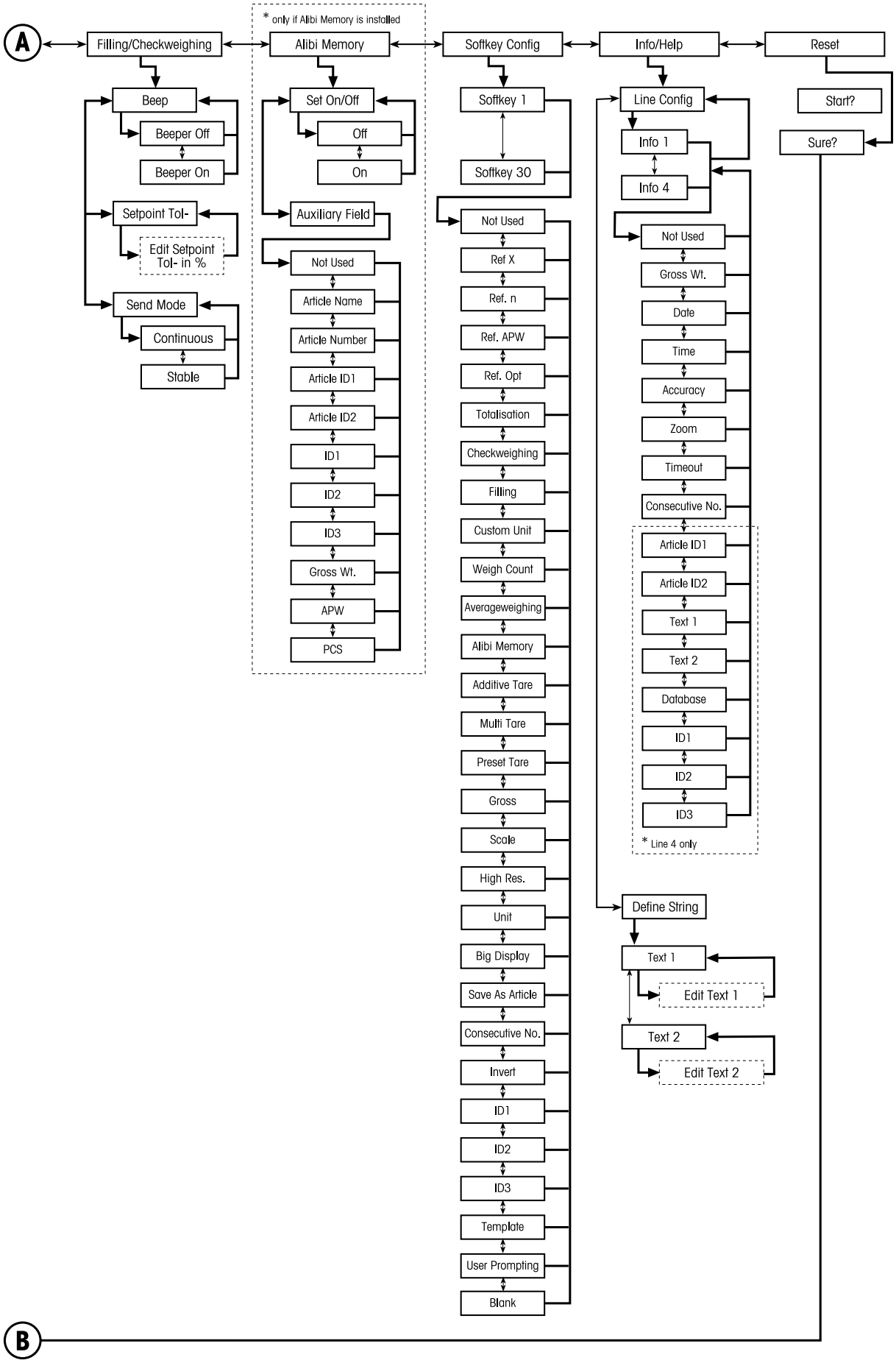
### *5.3.1 Scale*



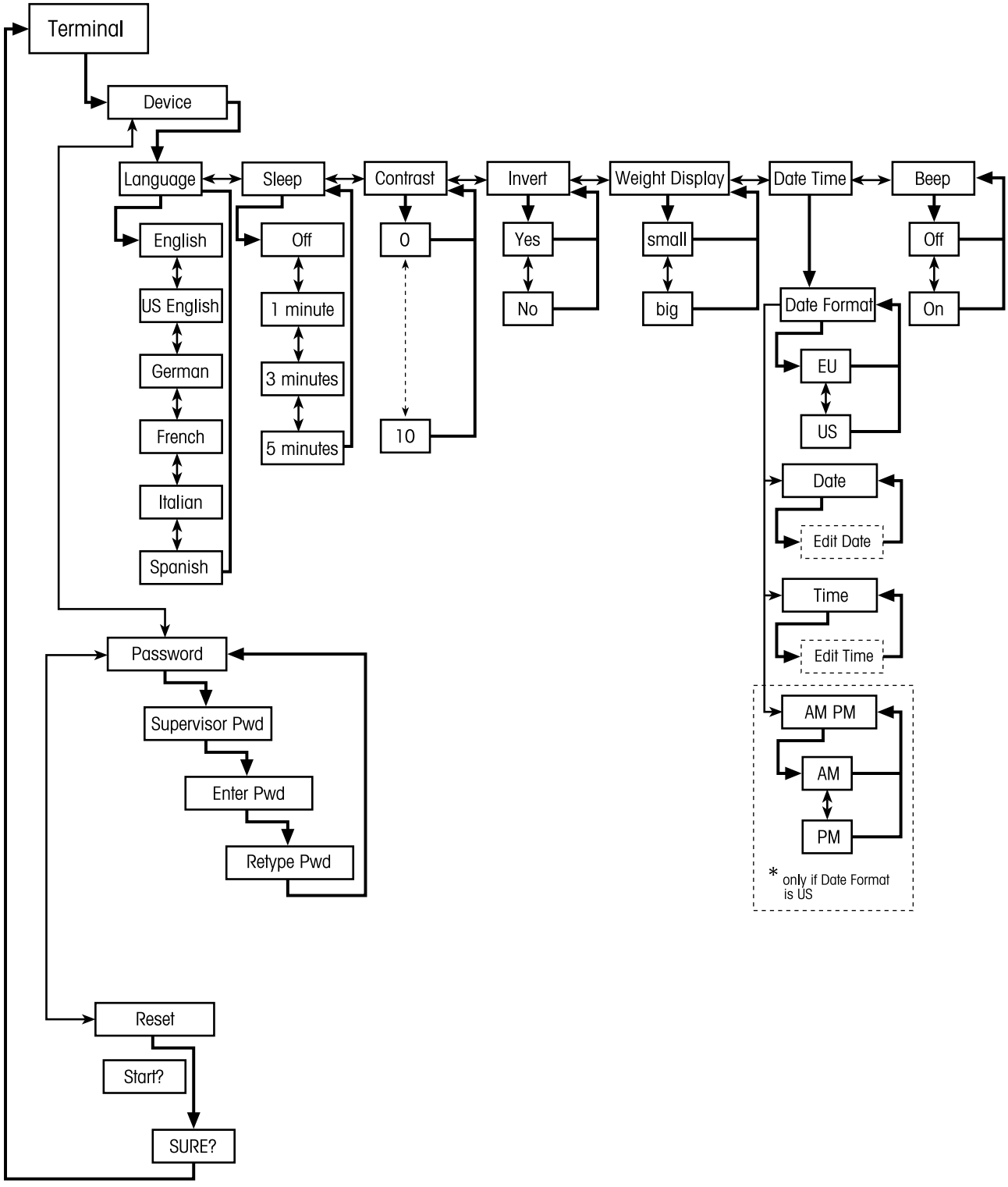
## 5.3.2 Application



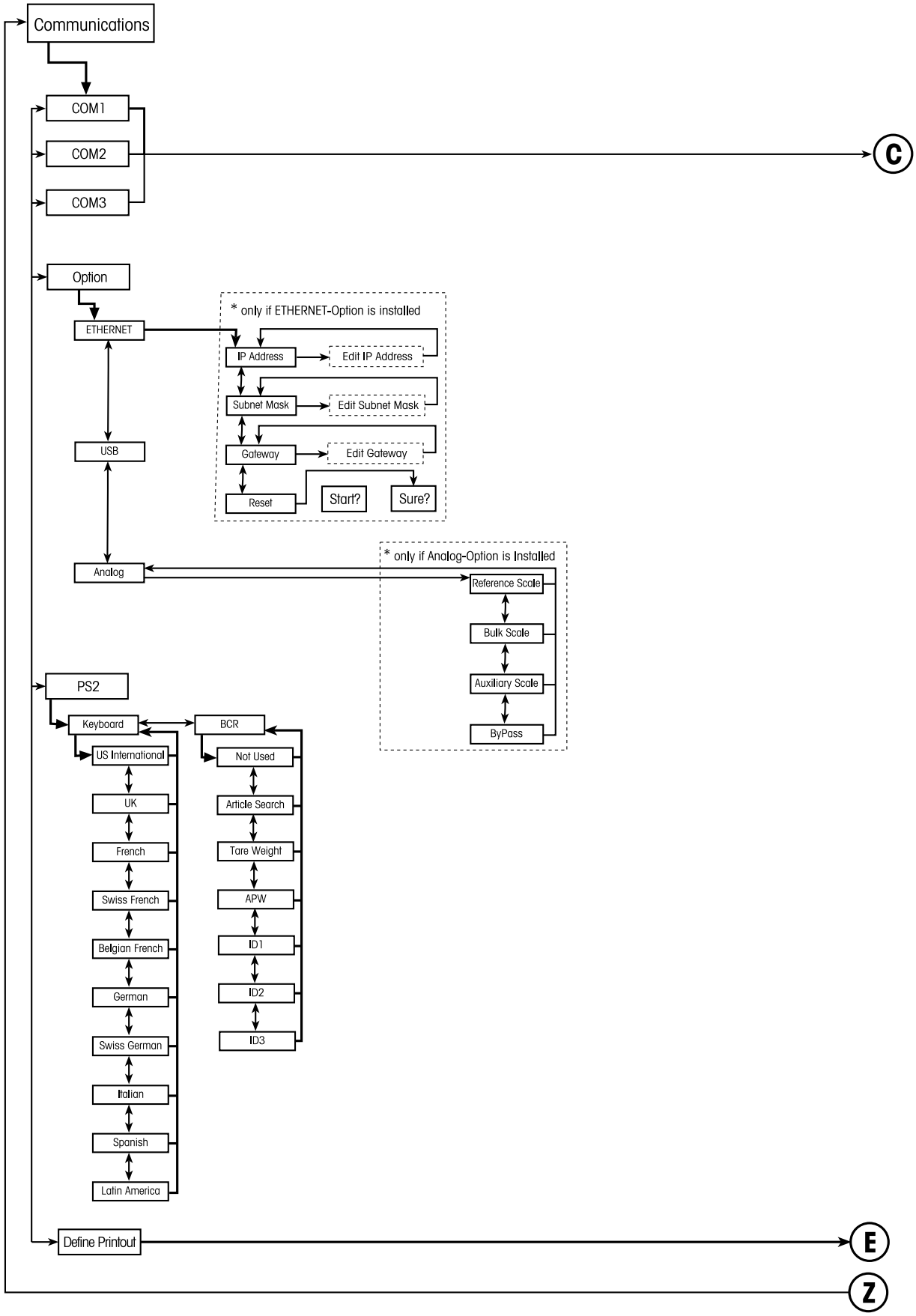

**Applications continued**....


A
Filling/Checkweighing
Alibi Memory
* only if Alibi Memory is installed
Softkey Config
Info/Help
Reset
Beep
Beeper Off
Beeper On
Setpoint Tol-
Edit Setpoint Tol- in %
Send Mode
Continuous
Stable
Set On/Off
Off
On
Auxiliary Field
Not Used
Article Name
Article Number
Article ID1
Article ID2
ID1
ID2
ID3
Gross Wt.
APW
PCS
Softkey 1
Softkey 30
Not Used
Ref X
Ref. n
Ref. APW
Ref. Opt
Totalisation
Checkweighing
Filling
Custom Unit
Weigh Count
Averageweighing
Alibi Memory
Additive Tare
Multi Tare
Preset Tare
Gross
Scale
High Res.
Unit
Big Display
Save As Article
Consecutive No.
Invert
ID1
ID2
ID3
Template
User Prompting
Blank
Line Config
Info 1
Info 4
Not Used
Gross Wt.
Date
Time
Accuracy
Zoom
Timeout
Consecutive No.
Article ID1
Article ID2
Text 1
Text 2
Database
ID1
ID2
ID3
* Line 4 only
Define String
Text 1
Edit Text 1
Text 2
Edit Text 2
Start?
Sure?
B

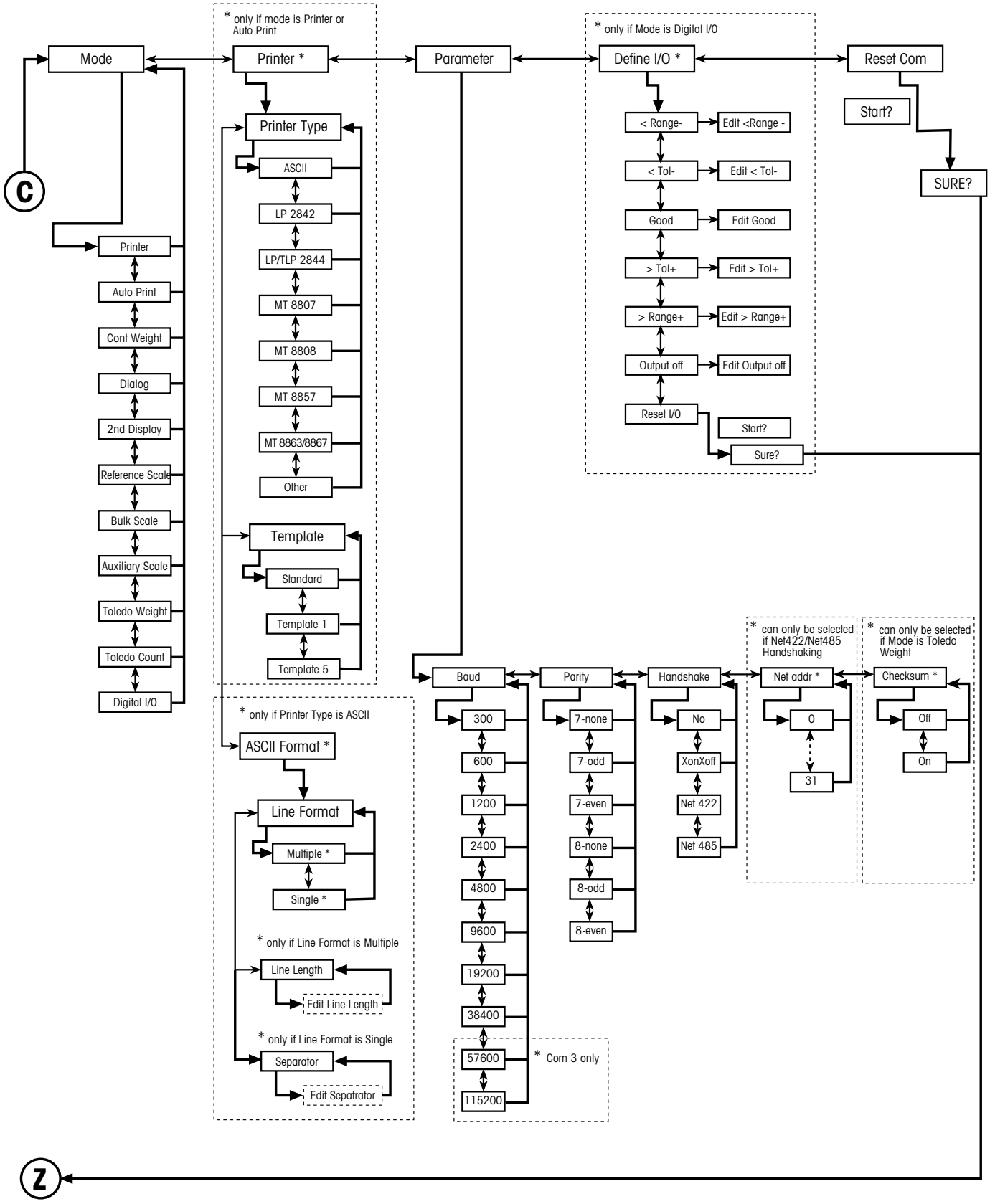
### 5.3.3 Terminal



## 5.3.4 Communications

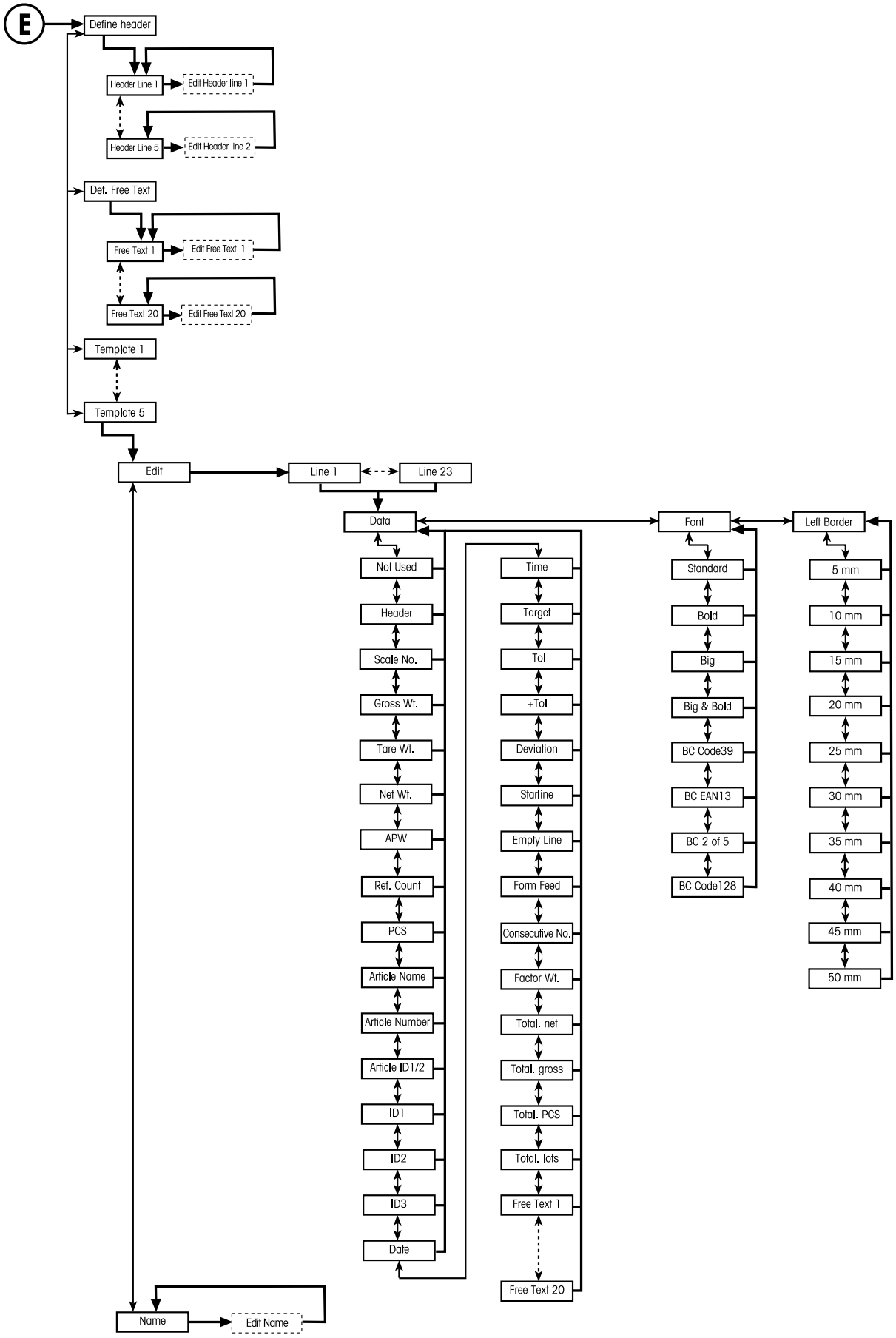


## Communications continued... (only if Mode is Printer or Auto Print)

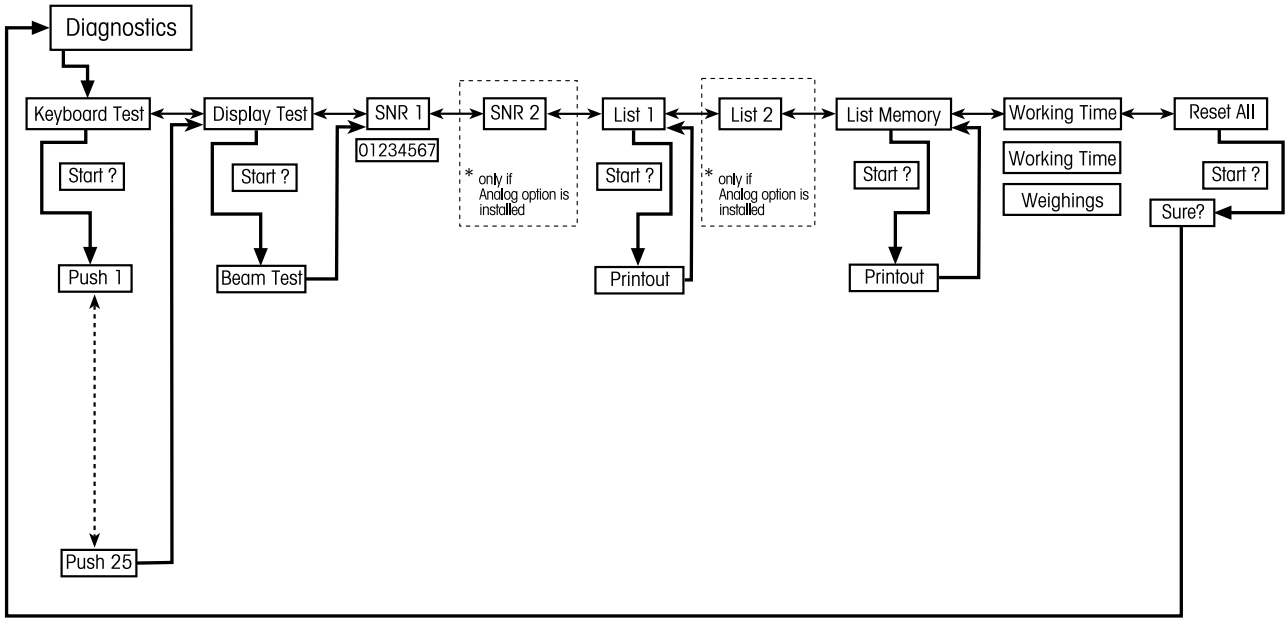


**44**

## Communications continued... (only if Mode is Digital I/O)



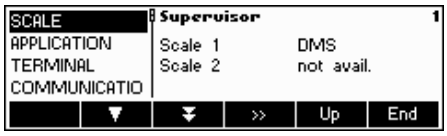
### 5.3.5 Diagnostics



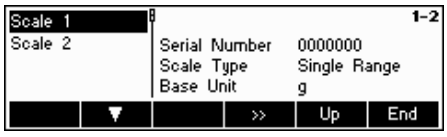

## 5.4 Scale settings (SCALE)

This function block allows the user to change general scale functionality.

Please refer to Chapter 5.3.1. on how to reach the menu position 'Vision Setup → SCALE' and how to navigate within the 'Vision Setup'-menu.




The screen shows the most important scale settings as a preview.




The screen shows a preview of the most important settings of the active item, e.g. those of scale 1 if 'Scale 1' is active (i.e. highlighted).

Enter the SCALE menu («>>»), select the appropriate scale (Scale 1 or 2; note that this submenu appears only if a second scale is installed with the analog option) and choose one of the functions listed below.

**Available functions and settings:**

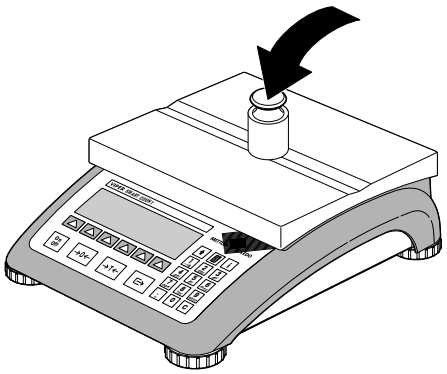
| | |
|---|---|
| Adjust/calibrate the scale | → Chapter 5.4.1 |
| Display accuracy and weighing unit | → Chapter 5.4.2 |
| Tare settings | → Chapter 5.4.3 |
| Automatic zero point correction | → Chapter 5.4.4 |
| Automatic storage of tare and zero values | → Chapter 5.4.5 |
| Adaptation to environmental conditions and weighing mode | → Chapter 5.4.6 |
| Reset 'SCALE' settings to factory settings | → Chapter 5.4.7 |

## *5.4.1 Adjust/calibrate (SCALE → Calibration)*

This function enables the scale to be adjusted/calibrated (weighing pan must be empty). **Not available on certified scales!**

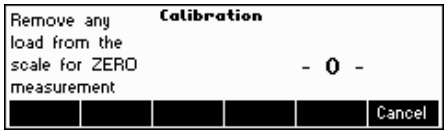
Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Calibration' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» and follow the instructions given on the screen.



After choosing the calibration weight, place the weight on the weighing pan and then press the «**OK**» softkey.

It is recommended to use the maximum calibration weight from the list. If it is not possible to use the maximum weight, at least do not use less than one-third of the maximum load to ensure reliable weighing values.



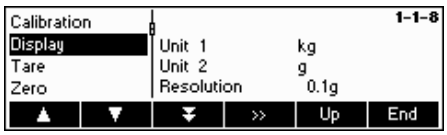

Calibration is done. Continue with other functions or press «**End**» and confirm with the «**Yes**» softkey to save the changes.

Note: Abort calibration at any given time by pressing the «**Cancel**» softkey.

## *5.4.2 Display resolution and weighing unit (SCALE → Display)*

This function allows the user to change the weighing unit, to add a second unit (to switch between Unit 1 and Unit 2, a softkey 'Unit' has to be configured in 'Vision Setup → APPLICATION → Softkey Config.') and to set the resolution of the weight (always Unit 1).

Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Display' and how to navigate within the 'Vision Setup'-menu.




Press «>>» and select e.g. "**Unit 1**", then «**Edit**» to change the unit.


In order to change the settings of the resolution of the scale, select "**Resolution**" **(this function is not available on all models)**.


Use the «▼» and «▲» softkeys to select the desired resolution and press the «**OK**» softkey. For multi range scales, the 'd1' resolution may be available twice (depending on the scale model), as single range and as multi range (with symbol in top right corner).

**Note:** For Multi Range scales, changing the resolution will disable the range icon. To re-enable it, select a resolution which is indicated as Multi Range.

## *5.4.3 Tare settings (SCALE → Tare)*

This function allows the user to configure all the available tare function of the scale.

Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Tare' and how to navigate within the 'Vision Setup'-menu.


Switch the available functions **Auto Tare, Chain Tare, AutoClr Tare or Pushb. Tare** either On or Off.

**Automatic tare** automatically tares the scale once a load is placed on the weighing pan. If this is active, the icon AT flashes on the lower right side of the display.

**Chain tare** allows several tare actions without clearing the tare memory. If this is not active, the tare memory has to be cleared by pressing the «**C**» softkey. The tare memory has to be cleared before a new tare can be performed.

**Automatic clear tare** automatically clears the tare memory once the load is removed from the weighing pan.

**Push button tare** enables/disables the use of the «→**T**←» key to perform manual taring.

## *5.4.4 Automatic zero point correction (SCALE → Zero)*

With Auto Zero, small deviations in the weight (in the range of 50% of 1d) are automatically zeroed. **Always active for certified scales!**

Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Zero' and how to navigate within the 'Vision Setup'-menu.


Press «**Edit**» to switch the Auto Zero function on or off.

## 5.4.5 Automatic save of tare and zero values (SCALE → Restart)

This function allows the user to set the scale so that it is able to automatically save the tare and zero values after switching off or when a power outage occurs. **Not available on certified scales. Automatic save switched off is the factory setting.**

Block can only be accessed by a supervisor**.**

Please refer to Chapter 5.2 on how to reach the menu position 'Vision Setup → SCALE → Restart' and how to navigate within the 'Vision Setup'-menu.


Press «**Edit**» to switch the automatic save switch function on or off.

## 5.4.6 Adaptation to environmental conditions and weighing mode (SCALE → Filter)

Vibration function allows the user to set the scale so that it is able to adapt itself to the existing environmental conditions.

Process function allows the user to set the weighing mode of the scale (weighing process adapter).

Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Filter' and how to navigate within the 'Vision Setup'-menu.


Press «>>» to go to the vibration and process settings menu.


**Vibration:**

**Low**: For very stable and stable environment. Scale operates very quickly but is more sensitive to external influences.

**Mild**: For normal environment conditions. Scale operates at medium speed (**factory setting**).

**High**: For unstable environment. Scale operates more slowly but is less sensitive to external influences.

**Process:**

**Universal**: Setting for all weighing types and normal weighing goods (**factory setting**)

**Filling**: Setting for dispensing liquids or powdery substances.

### *5.4.7 Resetting scale to factory default settings (SCALE → Reset)*

This function resets the 'SCALE' block to its original factory settings.

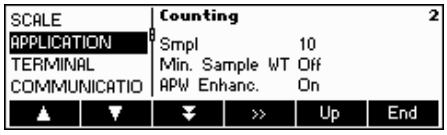
Please refer to Chapter 5.3.1 on how to reach the menu position 'Vision Setup → SCALE → Reset' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to reset the scale settings. 'SURE?' will appear, press «**Yes**» to confirm. The scale settings are now reset to its original factory settings.

## 5.5 Application settings (APPLICATION)

This function block allows the user to change the count application specific settings of the scale.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION' and how to navigate within the 'Vision Setup'-menu.




The screen shows the most important application settings as a preview.


The screen shows a preview of the most important settings of the active item, e.g. those of counting if 'Counting' is active (i.e. highlighted).

Enter the APPLICATION menu («»») and choose one of the functions listed below.

**Available functions and settings:**

| | |
|---|---|
| Settings for piece counting | → Chapter 5.5.1 |
| Database | → Chapter 5.5.2 |
| Identification | → Chapter 5.5.3 |
| Settings for totalisation | → Chapter 5.5.4 |
| Settings for filling/checkweighing | → Chapter 5.5.5 |
| Settings for softkey configuration | → Chapter 5.5.6 |
| Info/Help | → Chapter 5.5.7 |
| Reset 'APPLICATION' settings to factory settings | → Chapter 5.5.8 |

### *5.5.1 Settings for piece counting (APPLICATION → Counting)*

The Ref X parameter determines the amount of pieces used to get the average piece weight.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Counting' and how to navigate within the 'Vision Setup'-menu.


Press «»» to change the settings into the desired number of pieces or to freeze the actual setting of the Ref X value.


Choose "Value" and press «**Edit**» to change the settings of the actual value of Ref X. After the Ref X has been changed, the number of references in the main menu changes accordingly (e.g. 'Ref 10').


Choose "Freeze" and press «**Edit**». If this function is set to "On", it is no longer possible to change the value of Ref X in Short Input Mode.



**User Prompting**

This function defines whether a user will be guided actively and step-by-step through his operating procedure or not. The choice is either to use one of the predefined user prompting procedures or to define an own one. During predefined procedures, the bar graph toggles with the user prompts.

By default, 'Active Prompting' is switched off, thus the operator is free to define his own tasks.

The choice of predefined user prompting procedures:

Tare/Sample - With this setting, Smart Count will guide the user through the counting procedure using the Tare -> Sample method.

Sample/Tare - With this setting, Smart Count will guide the user through the counting procedure using the Sample -> Tare method.

Handsfree - With this setting, Smart Count will guide the user through the counting procedure and will automatically tare the scale so that the user does not have to press the «→T←» key.

User defined - This function allows the user to choose his own defined user prompting. The prompts need to be defined with 'Def. User Prompt'.

**Note**: User prompting should **not** be used in 2-scale counting.




**User-defined User Prompting:** (Def. User Prompt)

The defined user prompting allows the supervisor to define a specific flow process. The user, with the aid of the defined working steps, can work through a complete flow process.

"Def. User Prompt" function allows the user to define a step-by-step flow process. Afterwards, choose "Step 1". A text can now be entered for the user (working instructions) and the corresponding function can be defined.

**Example:**

Step 1:

User Text → Place the container on the scale

User Function → Auto Tare (scale will automatically be tared)

Step 2:

User Text → Place the container on the scale

User Function → Auto Print (Protocol will automatically be printed)

**Functions:**

| | |
|---|---|
| Not used | → no function |
| Tare | → Scale is waiting for the entry of a tare value |
| Auto Tare | → tares the scale automatically once a load is placed on the weighing pan |
| AutoClr. Tare | → clears the tare memory automatically once the weight goes back to Zero +/-9d |
| Zero | → Scale is waiting for zerosetting |
| Auto Zero | → small deviations in the weight are automatically zeroed |
| Reference | → Scale is waiting of the entry of a tare value |
| Auto Reference | → reference determination is automatically performed |
| Print | → Scale is waiting for pressing the "Print-key" |
| Auto Print | → Automatic printing of stable weights |
| Clear APW | → average piece weight is cleared once the weight is back to Zero +/-9d |
| Auto Clear APW | → average piece weight is automatically cleared once the weight is back to Zero +/-9d |
| ID1…3 | → Scale expects entry of a tare value |
| Article | → Scale is waiting for the entry of an article of the database |
| Scale X | → Scale is waiting for switching to scale X (X=1 or 2) |
| Auto Scale X | → Scale is switching automatically to scale X (X=1 or 2) |
| Text only | → Shows only an entered text. Continuing with „⇧" – Key |

**Note:** In 2-scale operation, the user prompting function is only available if it is set to "Additional Scale".



**Minimum Reference Weight**

This setting controls the limits for reference weight determination. If this function is active, the relative accuracy of the APW (see accuracy display) must be greater than the value selected. Otherwise, the user will be prompted to add more pieces to increase the value of the accuracy of the APW.



**Automatic Reference Optimization**. See also Chapter 4.3 "Reference Optimization".

Activate automatic reference optimization by choosing "On" or deactivate by choosing "Off".



**Auto Reference Determination**

With this set to on, reference determination is automatically performed once load is placed on the scale without the user having to press the Ref_X softkey.

Activate auto sampling by choosing "On" or deactivate by choosing "Off".



**Automatic Clear Average Piece Weight**

With this set to on, the average piece weight is automatically cleared once the load is removed from the scale without the user having to press the «**C**» softkey.

Activate automatic clear average piece weight by choosing "On" or deactivate by choosing "Off".



**Accuracy Display**

This function enables the display of the percentage accuracy. With this function set to "On", the percentage accuracy will be displayed for approximately 4 seconds on the 4th Info line after a reference weight determination.

Activate accuracy display by choosing "On" or deactivate by choosing "Off".



**Total Pieces**

This function allows the user to have the pieces loaded on the reference scale automatically added to those loaded on the bulk scale: Select 'Both scales' and the pieces that were used to determine the reference will be added.

If 'Bulk scale' is selected (default) then only the pieces situated on the bulk scale will be shown.

## 5.5.2 Settings for database (APPLICATION → Database)

The following illustrates the possible settings for the databank.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Database' and how to navigate within the 'Vision Setup'-menu.


Press «>>» to go to database settings menu. Select the item that you wish to modify by using the «▼» and «▲» softkeys. When the desired item is highlighted, press «>>» to modify the item.


Article - This submenu allows you to define and change different article strings in the databank settings.


ID overview
- If this function is turned "On", you can directly call up the IDs using the databank key.
- If this function is turned "Off", you are directly led to the databank menu once the databank key is pressed.


Access
- If this function is set to "Intern", Smart Count considers only its own databank.
- If this function is set to "Extern", an external databank will be asked. In this case, Smart Count's own internal databank will not be considered. This is the case if the Viper Smart Count is in "Host-Mode" and functions as a satellite.


The following settings can be configured:

Display - Define the text that appears as a heading on the display.

Function keys - Define the text of the function key in the menu list, in which the article database can be opened or the selected ID can be edited.


Search criterion - Set the field that will be used for searching, scrolling, and sorting of the list of articles in the database. It could either be by name or by number.

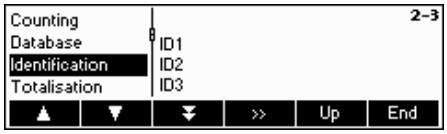
Password - Password-protect the article database from being modified.

**Note**: Press the «**Erase**» softkey to clear the existing text and type the desired text using the keypad. Press the «→» and «←» keys to move cursor from left to right and vice-versa. Press «**OK**» when input is done. To deactivate the ID's, make their "Softkey" text blank (i.e. Press «**Erase**» then accept the empty text by pressing «**OK**»).

## 5.5.3 Identification (APPLICATION → Identification)

For article-independent identification purposes. If a text for the ID's is entered, the entered text will be displayed and/or printed.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Identification' and how to navigate within the 'Vision Setup'-menu.




Press «>>» to go to Identification settings menu.


Choose the ID to be edited and press «>>».


Choose "Print" and press the «**Edit**» softkey. Then, enter the intended text to be printed out.

Choose the "Function key" and press the «**Edit**» softkey in order to generate the text for the function key (See Chapter 5.5.6).

Please adjust "Clear with C" to "Off" if you do **not** want to clear automatically the contents of the ID by the C-key, respectively adjust it to "ON" if you also want to clear automatically the ID-contents when pressing the C-key .

## 5.5.4 Settings for totalisation (APPLICATION → Totalisation)

These settings control the printout during the Totalisation function.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Totalisation' and how to navigate within the 'Vision Setup'-menu.


Press «>>» to go to Totalisation settings menu.


Printout - This function allows you to specify whether or not an automatic printout in the "Totalisation" application will be generated.

Zero stable - This function allows you to specify whether or not the scale should first find a stable zero-point when a load is removed from the scale, before continuing with the Totalisation application.

Mode - This function allows you to define, whether to accept the registration of the weight manually or automatically. Confirm manually by using the «+» or «-» keys.


If you choose the position "Printout", you can also specify an interface for your printout in this function.


Lot Printing - This function allows you to define whether an automatic printout should follow after every registration of value and to specify also the type of format for the printout, or whether or not every single batch should be printed out.

Final Printing - This function allows you to define whether an automatic printout should follow at the end of the Totalisation application and to specify also the type of format for the printout, or if no automatic printout should follow at all.

Summary - If this function is active, all single batches will additionally be printed out after the Total print.


This function allows you to use a specific format for each of your printouts.


Choose "Mode" in order to define the mode of the Totalisation application.


Manual - Perform the totalisation manually by confirming with the «+» or «-» key.

Auto + - The scale adds automatically without confirming with the «+» key.

Auto - - The scale subtracts automatically without confirming with the «-» key.

## *5.5.5 Settings for filling/checkweighing (APPLICATION → Filling/Checkweighing)*

This setting controls the use of the built-in beeper, setpoint tolerance and sender mode during the Checkweighing (+/-) and Filling functions.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Filling/Checkweighing' and how to navigate within the 'Vision Setup'-menu.


Choose "Filling/Checkw." and press «>>» to go to the Filling/Checkweighing menu.

Beeper — If the Beeper is set to "On", there will be a short beep when the current load is within the target range.

Setpoint Tol- — Defines the value where the I/O Relay-Interface should become activated. The percentage value to be entered is meant to be relative to the value Tol-.

**Example:**
Target: 2000g
Tol+: 2010g
Tol-: 1990g
Setpoint Tol-: 10%
=> The I/O-relay box will only be activated when the value reaches 199g (19% of 1990g)

Send Mode — Specify the form of data that the connected I/O-relay box receives from the scale. If it is set to "Continuous", the data will be sent constantly. If it is set to "Stable", the data will only be sent if the weight value is stable.

## *5.5.6 Settings for softkey configuration (APPLICATION → Softkey Configuration)*

This function configures the task of each softkey in the main display. There are a maximum of 30 definable softkeys, each of which can be configured to perform various applications and shortcuts to some scale operations.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Softkey Configuration' and how to navigate within the 'Vision Setup'-menu.


Press «>>» to go to Softkey Configuration settings menu.


Select the desired softkey that is to be defined and press «**Edit**» to designate its function. It is possible to define up to 30 softkeys.

**Note:** It is possible to insert a Softkey with the ⇧ - key


Use the «▼» and «▲» softkeys to select the desired function of the softkey, then press «**OK**».

Each softkey can be configured to any of the following functions:

Not Used — Select "Not Used" to indicate the last visible softkey. Softkeys with designated functions but are past the softkey set to "Not Used" will not be visible in the main display.

Ref X — Show the «**Ref X**» softkey where X is the reference number of pieces to use for average piece weight determination. The value for X can be defined in 'Vision Setup → APPLICATION → Counting → Ref X' (Chapter 5.5.1) or in Short Input Mode (Chapter 3.1)

| | |
|---|---|
| Ref. n | Show the «**Ref n**» softkey. With this softkey it is possible to select the reference number of pieces to use for average piece weight determination. |
| Ref. APW | Show the «**Ref APW**» softkey which is used to enter a pre-defined Average Piece Weight. |
| Ref. Opt | Show the «**RefOpt**» softkey which is used to perform a manual reference optimization (Chapter 4.3). |
| Totalisation | Show the «Σ» softkey which is be used to start the Totalisation application (Chapter 4.7). |
| Checkweighing | Show the «**+/-**» softkey which is used to start the Checkweighing application (Chapter 4.9). |
| Filling | Show the «**Filling**» softkey which is used to start the Filling application (Chapter 4.8). |
| Custom Unit | Show the «**CU**» softkey which is used to start the Custom Unit application (Chapter 4.10). |
| Weigh Count | Show the «**Weigh**» (if scale is in piece counting mode) or «**Count**» (if scale is in weighing mode) softkey which is used to toggle the scale to weighing mode and piece counting mode respectively. **Note**: If there is no average piece weight active, it will not be possible to switch modes so this softkey will not be visible even if it is configured. |
| Averageweighing | Show the «**Average**» softkey which is used to start the Average Weighing application (Chapter 4.11). |
| Alibi Memory | Show the «**Alibi**» softkey which is used to start the Alibi memory application (Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**). |
| Additive Tare | Show the «**AddTare**» softkey which is used to add the current weight on the scale to the tare weight memory. |
| Multi Tare | Show the «**MulTare**» softkey. With this softkey, it is possible to enter the number of containers and the pre-determined tare weight of 1 container. Smart Count will automatically calculate the cumulative tare weight of the multiple containers. |
| Preset Tare | Show the «**PT**» softkey which is used to enter a pre-defined tare weight. |
| Gross | Show the «**Gross**» softkey which is used to show the gross weight on the main weight display. |
| Scale | Show the «⚖» softkey which is used to toggle the weight source during 2-scale operations (Chapter 4.6). **Note**: This softkey will only be visible if 2-scale operations are possible. That means one of the interfaces must be set to a mode of "Reference Scale", "Bulk Scale", or "Auxiliary Scale" (Chapter 5.9.1). |
| High Res. | Show the «⊶» softkey which is used to display the net weight at a higher resolution. |
| Unit | Show the «**Unit**» softkey which is used to toggle the weight display between Unit1 and Unit2. **Note**: This softkey will only be visible if Unit1 and Unit2 (Chapter 5.4.2) are not the same. |
| Big Display | Show the «**BigDis**» softkey which is used to toggle the display between a large-font weight display and the normal weight display. |
| Save As Article | Show the «**SaveAs**» softkey. With this softkey, it is possible to save the current state of the applications into a new article. |
| Consecutive No | Show the «**CNo**» softkey. With this softkey, it is possible to edit the Consecutive Number which is incremented after every printout. |
| Invert | Show the «**Invert**» softkey which is used to invert the LCD display (Chapter 5.6.3). |
| ID 1 | Show the «**ID 1**» softkey. You can rename this softkey under "Function key" in "Vision Setup → Application → Identification → ID 1". You can directly enter data by confirming with this key. |

| | |
|---|---|
| ID 2 | Show the «**ID 2**» softkey. You can rename this softkey under "Function key" in "Vision Setup → Application → Identification → ID 2". You can directly enter data by confirming with this key. |
| ID 3 | Show the «**ID 3**» softkey. You can rename this softkey under "Function key" in "Vision Setup → Application → Identification → ID 3". You can directly enter data by confirming with this key. |
| Template | Show the «**Template**» softkey, which is used to directly access your defined template, and to assign the necessary data interface. |
| User Prompting | Show the «**Prompt.**» softkey to be able to reach the user-defined User Prompting menu. |
| Blank | Show a blank softkey. |

## *5.5.7 Settings for Info/Help (APPLICATION → Info/Help)*

This function configures the contents of the four Info lines located at the left side of the main display. The info lines can be accessed by pressing the «**i**» key while in the main display.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Info/Help' and how to navigate within the 'Vision Setup'-menu.


Press the «>>» softkey to go to the "Info/Help" application.


Choose "Line Config." and then press the «>>» softkey to enter the list of available Info that can be designated for each Info line.


Configuration of the four Info lines:

Each of the first three Info lines can be configured to display any of the following information:



Each Info line can be configured to display any of the following information:

| | |
|---|---|
| Not Used | Display a blank Info line. |
| Gross Wt. | Display the gross weight. |
| Date | Display the date. |
| Time | Display the time. |
| Accuracy | Display the percentage accuracy. This line will only be displayed if a reference weight determination has been performed. |
| Zoom | Display the net weight at a higher resolution. |
| Timeout | Display the timeout status. |
| Consecutive No. | Display the current value of the Consecutive Number. |


Choose "Define String" and press the «>>» softkey to enter a text that you can define freely in "Text 1" and Text 2", which can then be displayed on the fourth Info Line.

Aside from the above information that is already given, a **fourth line** that contains further information can be added and displayed.

| | |
|---|---|
| Article ID 1 | For article-dependent identification purposes that refers only to this article. |
| Article ID 2 | For article-dependent identification purposes that refers only to this article. |
| Text 1 | Text 1 that will be entered in "Define String → Text 1" |
| Text 2 | Text 2 that will be entered in "Define String → Text 2" |
| Databank | Capacity of the databank memory.<br>Example: 4/1613 – 0.25%<br>- There are 4 defined articles out of the 1613 articles.<br>- The memory is using 25% of its capacity. |
| ID 1 | For article-independent identification purposes. |
| ID 2 | For article-independent identification purposes. |
| ID 3 | For article-independent identification purposes. |

### *5.5.8 Settings for reset (APPLICATION → Reset)*

This function resets the 'APPLICATION' block to its original factory settings.

Please refer to Chapter 5.3.2 on how to reach the menu position 'Vision Setup → APPLICATION → Reset' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to reset the application settings. 'SURE?' will appear, press «**Yes**» to confirm. The application settings are now reset to its original factory settings.

## 5.6 Terminal settings for device (TERMINAL → Device)

This function block allows the user to change display and peripheral oriented settings of the scale. If access is blocked by a Supervisor Password (as discussed in Chapter 5.7), the user will be able to access only the menu "Device".

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device' and how to navigate within the 'Vision Setup'-menu.


The screen shows the most important terminal settings as a preview.


The screen shows a preview of the most important settings of the active item, e.g. those of device if 'Device' is active (i.e. highlighted).

Enter the TERMINAL menu («>>») and choose one of the functions listed below.

**Available functions and settings:**

| | |
|---|---|
| Language settings | → Chapter 5.6.1 |
| Sleep function | → Chapter 5.6.2 |
| Contrast | → Chapter 5.6.3 |
| Invert | → Chapter 5.6.4 |
| Weight display | → Chapter 5.6.5 |
| Date and time | → Chapter 5.6.6 |
| Beep | → Chapter 5.6.7 |

## *5.6.1 Language settings (TERMINAL → Device → Language)*

This function allows the user to change the language settings of the scale.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Language' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Language settings menu.


Use the «▼» and «▲» softkeys to select the desired language setting and press «**OK**».

## 5.6.2 Sleep function (TERMINAL → Device → Sleep)

When the scale is deriving its power only from a battery and is not plugged in an electrical outlet, this function is especially useful in order to conserve power.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Sleep' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Sleep settings menu.


The scale will turn itself off automatically when the selected time elapses.

## 5.6.3 Adjusting the contrast of the display (TERMINAL → Device → Contrast)

This function allows the user to adjust the contrast of the screen display.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Contrast' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Contrast settings menu.


Select the degree of contrast by scrolling the «▼» or «▲» softkey. Press «**OK**» to confirm selection.

## 5.6.4 Invert (TERMINAL → Device → Invert)

This function allows the user to select either a white or a black background of the screen display.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Invert' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Invert settings menu.

Choose the desired setting (Yes or No) and then press «**OK**» to confirm selection.

## 5.6.5 Changing the size of weight display (TERMINAL → Device → Weight display)

This function allows the user to select either a small or a big weight display on the screen.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Weight display' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Weight Display settings menu. Default setting is big.


Choose the desired size and then press «**OK**» to confirm selection.

**Note**: Changing the mode of the weight display with the «**BigDis**» softkey (Chapter 5.5.6) will not affect this setting. If the mode was changed with the «**BigDis**» softkey, the display will revert to this setting after switching the scale on or after leaving the Vision Setup.

## 5.6.6 Adjusting the date and time (TERMINAL → Device → Date Time)

This function allows the user to set date and time of the scale.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Date Time' and how to navigate within the 'Vision Setup'-menu.


Press the «» softkey to go to the Date and Time settings menu.


Press the «**Edit**» softkey to change format either from US or EU format. Select Date to change the date and Time to change the clock of the scale. Press «**OK**» to confirm selection.

## 5.6.7 Activating the beep (TERMINAL → Device → Beep)

This function allows the user to switch the beep on or off, that is appearing on each key press.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Device → Beep' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» key to go to the Beep settings menu.

Choose the desired setting (On or Off) and then press «**OK**» to confirm selection.

## 5.7 Define supervisor password (TERMINAL → Access)

This function allows the user to change the supervisor password of the scale. Can only be accessed by a supervisor.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Access' and how to navigate within the 'Vision Setup'-menu.


Press the «>>» softkey …


… and then press the «**Edit**» softkey to enter a new password.


Enter the password using the keypad, press «**Ok**» to confirm. 'Retype Pwd' appears. Retype the new password and press «**Ok**» again.

If the password was forgotten, you may press «→**0**←», «→**0**←», «→**0**←», «⇨» keys in sequence to access the Vision Setup.

**Note:** There is no defined Supervisor Password in the factory setting. In this case, the Supervisor Password and the User Password are the same.
If a Supervisor Password has been set, the User Password will only be able to access the menu "Termainal → Device". All other menu settings can only be accessed by the Supervisor.

## 5.8 Reset terminal settings to factory settings (TERMINAL → Reset)

This function resets the 'TERMINAL' block to its original factory settings. The supervisor password ('TERMINAL → Access') will not be reset, only "Device" block.

Please refer to Chapter 5.3.3 on how to reach the menu position 'Vision Setup → TERMINAL → Reset' and how to navigate within the 'Vision Setup'-menu.

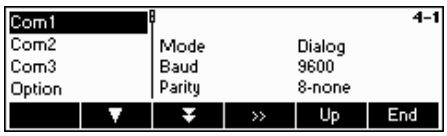

Press «**Yes**» to reset the terminal settings. 'SURE?' will appear, press «**Yes**» to confirm. The terminal settings are now reset to its original factory settings.

## 5.9 Communication settings (COMMUNICATIONS)

This function block allows the user to change the peripheral settings of the scale. Differences will appear depending on the option pack (Analog Option/Ethernet Option/USB Option) installed.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS' and how to navigate within the 'Vision Setup'-menu.


The screen shows the most important communication settings as a preview.




The screen shows a preview of the most important settings of the active item, e.g. those of COM1 if 'Com1' is active (i.e. highlighted).

Enter the COMMUNICATION menu by pressing («»), select a COM port and choose one of the functions listed below.

**Available functions and settings:**

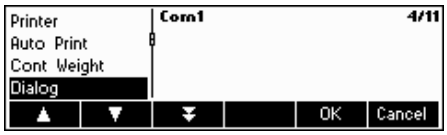
| | |
|---|---|
| Mode | → Chapter 5.9.1 |
| Printer – if mode is Printer or Auto print | → Chapter 5.9.2 |
| Parameters | → Chapter 5.9.3 |
| Define I/O – if mode is Digital I/O | → Chapter 5.9.4 |
| Reset 'COMMUNICATION' settings to factory settings | → Chapter 5.9.5 |
| Option Settings (Analog/Ethernet/USB) | → Chapter 5.9.6 |
| PS2 settings | → Chapter 5.9.7 |
| User-defined printout | → Chapter 5.9.8 |

### *5.9.1 Mode (COMMUNICATIONS → Mode)*

This function enables the user to set the input/output mode of a COM port.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → Mode' and how to navigate within the 'Vision Setup'-menu.


Press the «**Edit**» softkey to go to the Mode settings menu.




The mode setting can be changed with the following settings:

- **Printer**, (Manual data transmission to the printer)
- **Auto Print**, (Automatic printing of stable weights)
- **Continuous Weight**, (Continuous transmission of all weight values via the interface)
- **Dialog**, (Bi-directional communication via MT-SICS commands with the control of the scale through a PC)
- **2nd Display**, (connection of a second display)
- **Reference Scale**, (Second scale serves as a reference scale. Automatic switching from reference scale to bulk scale)
- **Bulk scale**, (Second scale serves as a bulk scale. Automatic switching from reference scale to bulk scale)
- **Auxiliary scale,** (both scales can be used as a reference as well as a bulk scale, but it does not switch automatically from reference scale to bulk scale)
- **Toledo Weight,** (Continuous transmission of all weight values in TOLEDO CONTINUOUS Format via the interface)
- **Toledo Count**, (Continuous transmission of the piece counts in TOLEDO CONTINUOUS Format via the interface)
- **Digital I/O**, (Transmission to a digital I/O relay box)

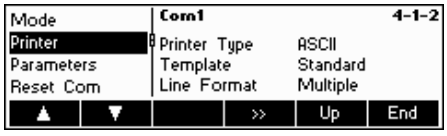
In this example, COM1 is set to Dialog (also known as "Host Mode" for MT-SICS commands). Confirm your choice of settings with «**OK**».

Press the «**End**» softkey and confirm with «**Yes**» to save changes.

## *5.9.2 Printer (COMMUNICATIONS → Printer) only in Printer Mode or Auto Print*

This function allows the user to define the settings of a printer to a COM Port. Please note that this function is only available in "Printer Mode" and "Auto Print".

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → COM X → Printer' and how to navigate within the 'Vision Setup'-menu.




The current printer settings are displayed on the right side of the screen. Press «>>» to go to the printer settings menu.


Choose "Printer Type" and press the «**Edit**» softkey to define the printer.


You can choose from any of the following printer types: ASCII

LP 2824

LP/TLP 2844

MT 8807

MT 8808

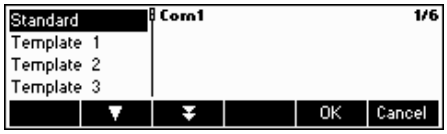
MT 8857

MT 8863/8867

Others*

*The term "Others" mean that you can freely choose any programmable (label) printer. Please refer also to Chapter 5.9.6 "User-defined printer".

Confirm your choice with «**Edit**» and then press «**Yes**» to save your settings.

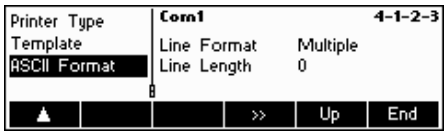



Smart Count gives you the possibility to generate up to five different user-defined templates for your individual printouts. However, this must be set in "Vision Setup → COMMUNICATION → Define Printer" as described in Chapter 5.9.6.

After you have defined a template, you can assign this directly to a data interface found in "Printer Mode" ("Vision Setup → COMMUNICATION → Printer → Template").

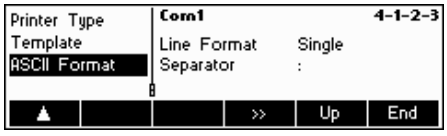
The template can also be accessed directly from Weigh Mode. Define a «**Template**» softkey as described in Chapter 5.5.6. This softkey will enable you to directly allocate a defined template of a data interface, without going inside the scale menu.

If printer type chosen is "ASCII", a new menu "Format ASCII" will appear. The settings for line format and length of line of ASCII printers can be defined inside this menu. The settings in this menu are as follows:




**Line Format: Multiple** A line number will be automatically sent after each line. The line has a defined number of characters in the menu "Line Available". The format of the characters will be left justified and the weight will be right justified.

**Note:** If the Line Available is defined as «0», there will be no alignment.




**Line Format: Single** Data will be sent without line change in a line. A separator will be inserted between a character and a value, as defined in the menu "Separator".

**Note:** Adding a semi-colon is recommended when reading in Excel.

## 5.9.3 Parameters (COMMUNICATIONS → Parameters)

This function allows the user to choose the settings of the parameter for the COM Port.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → Parameters' and how to navigate within the 'Vision Setup'-menu. (COM X corresponds to the COM Port in which the scale is connected).


The current Baud Rate, Parity and Handshake settings are displayed on the screen. Press «>>» and …


… «**Edit**» to change settings of Baud, Parity or Handshake.

| **Baud:** | **Parity:** | **Handshake:** |
|---|---|---|
| 300 | 7-none | No |
| 600 | 7-odd | XonXoff |
| 1200 | 7-even | Net 422 |
| 2400 | 8-none | Net 485 |
| 4800 | 8-odd | |
| 9600 | 8-even | |
| 19200 | | |
| 38400 | | |
| 57600 | (only for COM3) | |
| 115200 | (only for COM3) | |

**Note:** If Handshake "Net 422" or "Net 485", a Net Address menu will appear from which you can select from 0…31.

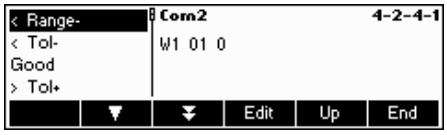
If Mode is "Toledo Weight" or "Toledo Count", a Checksum menu will appear which you can turn either "Off" or "On". If checksum is turned "On", the values transmitted through the interface can be verified by means of a checksum.

## 5.9.4 Define I/O (COMMUNICATIONS → Def. I/O – only if Mode is Digital I/O)

This function defines commands sent by Smart Count to the LC-I/O during Checkweighing and Filling functions. The commands for the MT-I/O relay box (Order No. 21 202 217) are already set in the factory settings. However, they can be replaced any time with other commands. Note that this function may only be activated if Mode is Digital I/O.

The I/O relay box must be defined in such a way that it is suitable to the correspoding COM Port of the scale to which it is connected. Go to "Vision Setup → COMMUNICATION → COM X → Mode and then choose "Digital I/O" and confirm with «**OK**». (COM X corresponds to the COM Port in which the scale is connected). Save your settings by pressing «**End**» and confirm by pressing «**Yes**».


Go to "Vision Setup → COMMUNICATION → COM X → Define I/O and then press «>>» to change settings for the I/O relay box.




Choose **< Range-, < Tol-, Good, > Tol+, >Range+, Output off or Reset I/O** and the press the «**Edit**» softkey to define the commands.

**< Range-** The command to send if the weight is below plausible limits.

**< Tol-** The command to send if the weight is below the Tol- defined.

**Good** The command to send if the weight is within the tolerances defined.

**> Tol+** The command to send if the weight is above the Tol+ defined.

**> Range+** The command to send if the weight is above plausible limits.

**Output off** The command to send if all outputs are to be turned off.

## *5.9.5 Reset communications (COMMUNICATIONS → Comx → Reset Com)*

This function resets the 'COMMUNICATIONS' block to its original factory settings.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → Comx → Reset Com' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to reset the settings of the current Com port. 'SURE?' will appear, press «**Yes**» to confirm. The chosen Com port is now reset to its original factory settings.

## *5.9.6 Option Settings (COMMUNICATIONS → Option)*

This function allows setting up the attached ETHERNET, USB and Analog options.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → Option' and how to navigate within the 'Vision Setup'-menu.

### ETHERNET OPTION

This function allows setting up the ETHERNET option.

**Available only if ETHERNET option is installed.**


The current settings are displayed on the screen. Press «>>» and …


Choose ETHERNET and press «>>» to enter the ETHERNET option settings.


Choose "IP Address", Subnet Mask", or "Gateway" and press «**Edit**» to choose the desired setting. Choose "Reset" to reset to its original factory settings.

## USB OPTION

This function shows the current state of the UBS option.

**Available only if USB option is installed.**


Choose USB and press «>>» to enter the ETHERNET option settings.


The current state of USB option will be shown. A further configuration of the USB interface within Vision Setup is not available.

## Analog OPTION

This function allows setting of the Analog option, wherein an analog weighing platform is connected to the Viper Smart Count.

**Available only if Analog option is installed.**


Choose **Reference Scale, Bulk Scale, Auxiliary Scale or Bypass** and then press «**OK**» to select the desired mode.

| | |
|---|---|
| **Reference Scale** | The weight coming from the analog option is to be used for reference weight determination only. The analog weighing platform uses the reference weight determination. Smart Count switches automatically to Bulk Scale after reference determination. |
| **Bulk Scale** | The weight coming from the analog option is to be used as bulk weight only. The reference determination is performed on Smart Count. Smart Count switches automatically to Bulk Scale after reference determination. |
| **Auxiliary Scale** | The weight coming from the analog option can be used as either reference or bulk. No automatic switching from reference scale to bulk scale will take place. |
| **Bypass** | The weight coming from the analog option will be ignored. |

## *5.9.7 PS2 Settings (COMMUNICATIONS → PS2)*

This function allows setting up of the peripherals that are attached via the PS2 Interface.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → PS2' and how to navigate within the 'Vision Setup'-menu.


Select the item you wish to configure.


**Keyboard**

It is possible to attach a PS2 keyboard to the scale via the PS2 Interface. This function enables you to specify the layout of the keyboard that you are using.

**Note**: When a PS2 keyboard is attached, it is possible to work with Smart Count using only this keyboard. The keys F1-F6 simulate the softkeys, F9-F11 simulate the top 3 function keys of the Viper scale. You can press the «**Enter**» and «**Esc**» keys to simulate the «**OK**» and «**Cancel**» softkeys respectively. The «**Backspace**» key simulates the «**C**» softkey.


**BCR**

Aside from a keyboard, it is also possible to attach a barcode reader via the PS2 Interface. This function enables you to specify the designation of the data coming from the barcode reader used for Direct Input (i.e. when the scale is in weighing or piece counting mode).

| | |
|---|---|
| Not Used | Ignore data coming from the barcode reader. |
| Article Search | Use the data for searching through the article database. |
| Tare Wt. | Assign the data read to Tare weight. |
| APW | Assign the data read to Average Piece Weight. |
| ID1 | Assign the data read to ID1. |
| ID2 | Assign the data read to ID2. |
| ID3 | Assign the data read to ID3. |

**Note**: The BCR setting is only used for Direct Input. Whenever the scale is asking for user input, the barcode reader can also be used to scan in data and the data will be used in the context of the user input.

## *5.9.8 User-defined printer (COMMUNICATIONS → User-defined printer)*

This function allows you to customize your printing tasks according to your needs.

Please refer to Chapter 5.3.4 on how to reach the menu position 'Vision Setup → COMMUNICATIONS → User-defined printer' and how to navigate within the 'Vision Setup'-menu.


Choose "Def. Printer" and press the «>>» to go to the settings of user-defined printer menu.


Smart Count enables you to specifiy the heading lines of your printout according to your needs. Moreover, you can generate a "Free Text". Furthermore, there are available templates that you can define.

Press "Def. Heading Line" and confirm with «>>».


Choose the heading line to be edited and press «**Edit**». Using the keypad or a connected keyboard, enter the texts for the heading line.


Free text enables you to control the output of different printers and generate user-defined printouts. It can contain variables that can be defined, which will be replaced by their corresponding values when printing. Control codes can also be entered, in order to control the connected printer. Any printer can be controlled using this operation.

**Note:** A list of variables can be found in Chapter --- Inputting variables and control codes in "Free Texts").

**Example:**

Free Text 1: "Today is $DAT\0D\0ATime is $TIM"

This free text contains the variable $DAT (Date) and $TIM (Time), as well as the code controls \0D (Carriage Return) and \0A (Line Feed). The following printout will be generated on an ASCII printer.

Today is 30.10.2003
Time is 11:09:14

In order to be able to create a free text, choose the corresponding text and press «**Edit**». Using the keypad or a connected keyboard, enter the texts for the free text.


It is also possible to generate a "Template". Choose the template that you wish to edit and press «>>». Choose «**Edit**» and then press «>>» to change the settings of this template. Choose "Name" and press «**Edit**» to give a name to the chosen template.


Choose the line to be edited and press «>>».

**Note:** It is possible to insert a line with the ⇧ - key


Choose "Date" to define the desired information for the line that was chosen. A detailed list of all functions can be found on the menu diagram (see Chapter 5.3.4 "COMMUNICATION → Def. Heading Line → Template 1-5 → Edit → Line 1-23 → Data").



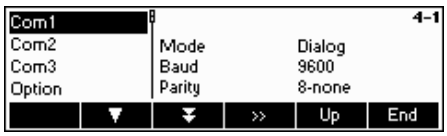
Choose "Font" to change the layout of the printout. (This menu is not available in printer type "ASCII" and "Others")


Choose "Left Margin" to specify the distance of the left margin. (This menu is not available in printer type "ASCII" and "Others")

## *Example: Configuration of a printer*

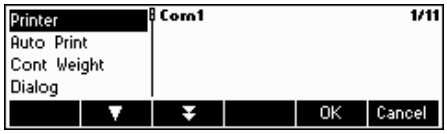
The configuration of a printer is illustrated with the help of this example. A label printer (Zebra LP 2824) is used as a printer.

Connect the printer and Smart Count in accordance with the user's manual of your printer.

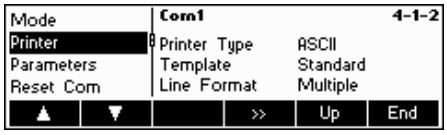



Select the COM port where you have connected your printer in "Vision Setup" menu under "COMMUNICATION". In our example, COM Port 1 (COM1) is used. Press «>>».


Choose "Mode" and press the «**Edit**» softkey.




Choose "Printer" and confirm with «**OK**».




The menu "Printer" now appears in the list of choices. Choose this parameter and press then press «>>».


Choose "Printer Type" and then press «**Edit**».


You may now choose a printer. In our example, the printer "LP 2824" is selected. Confirm selection with «**OK**».


In case you want to use "Template" in your printouts, you may also assign this to the corresponding data interface. Choose "Template" and press «**Edit**». (Templates can be created in "Vision Setup" menu under "COMMUNICATION → Def. Printout)


The desired template can now be selected. "Standard" as active is the factory settings for the template.


Go back one step back to the menu by pressing «**Back**» and then choose "Parameter". You may now change the settings for baud rate ("Baud"), parity and handshake. See the user's manual of your printer and verify the correct data. In our example, the value of the left picture to be made visible is turned on.

**Note:** If a printer driver of your printer is available, as in the case of our example, its corresponding parameters will automatically be set.

If you are done making the necessary settings of your printer configuration, press the «**Back**» softkey and confirm with «**YES**» to save your settings.

You can now generate your printouts using the «⇨» key.

## 5.10 Diagnostic settings (DIAGNOSTICS)

This function block allows the user to verify if all keys are functioning properly.

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS' and how to navigate within the 'Vision Setup'-menu.


Enter the DIAGNOSTICS menu («>>») and choose one of the functions listed below.

**Available functions and settings:**

| | |
|---|---|
| Keyboard Test | → Chapter 5.10.1 |
| Display Test | → Chapter 5.10.2 |
| Serial Number 1 | → Chapter 5.10.3 |
| Serial Number 2 | → Chapter 5.10.4 |
| List1 | → Chapter 5.10.5 |
| List2 | → Chapter 5.10.6 |
| List Memory | → Chapter 5.10.7 |
| Working Time | → Chapter 5.10.8 |
| Reset All | → Chapter 5.10.9 |

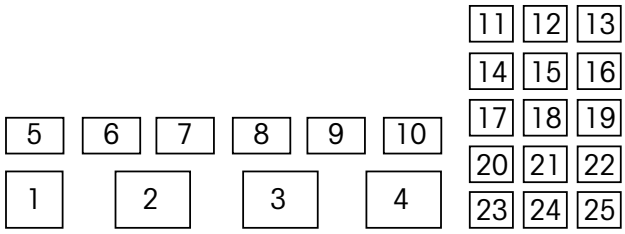
## *5.10.1 Keyboard (DIAGNOSTICS→ Keyboard Test)*

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → Keyboard Test' and how to navigate within the 'Vision Setup'-menu.


In order to check if all the keys are functioning properly, press «**Yes**» to start the keyboard test.

**Note:** The test can be aborted at any time by pressing the «**C**» key (25).

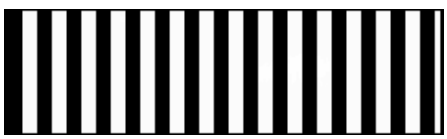

Press all 25 keys in sequence. If a key is functioning, the scale jumps to the next key. The keys are numbered as follows:




## *5.10.2 Display (DIAGNOSTICS→ Display Test)*

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → Display Test' and how to navigate within the 'Vision Setup'-menu.

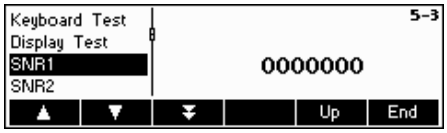

In order to check if the screen is functioning properly, press «**Yes**» and…



The display on the left will appear. An inverted display of the same screen will appear if any key is pressed. Pressing further any key will end the test display.

## 5.10.3 Serial Number 1 (DIAGNOSTICS→ SNR1)

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → SNR1' and how to navigate within the 'Vision Setup'-menu.




The serial number of the scale is displayed.

## 5.10.4 Serial Number 2 (DIAGNOSTICS→ SNR2)

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → SNR2' and how to navigate within the 'Vision Setup'-menu.


The **serial number** of the analog option, if installed, is displayed.

## 5.10.5 List 1 (DIAGNOSTICS→ List 1)

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → List 1' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to print out the current settings of the entire Vision Setup menu.

## 5.10.6 List 2 (DIAGNOSTICS→ List 2)

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → List 2' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to print out the current settings of analog option, if installed.

## *5.10.7 List memory (DIAGNOSTICS→ List Memory)*

This function prints out listing of all the articles stored in the database including a summary of the important parameters for each article.

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → List Memory' and how to navigate within the 'Vision Setup'-menu.


Press «**Yes**» to start printing.

## *5.10.8 Working time (DIAGNOSTICS→ Working time)*

This function displays the working time of the scale, as well as the number of weighings that are carried out by the scale.

Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → Reset All' and how to navigate within the 'Vision Setup'-menu.


Press "Working Time". The working time, as well as the number of weighings will immediately be displayed on the right side of the screen.

## *5.10.9 Reset All (DIAGNOSTICS→ Reset All)*

This function resets the all blocks of the whole Vision Setup Menu to its original factory settings. The supervisor password ('TERMINAL → Access') will not be reset.

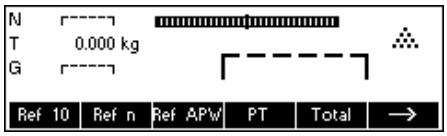
Please refer to Chapter 5.3.5 on how to reach the menu position 'Vision Setup → DIAGNOSTICS → Reset All' and how to navigate within the 'Vision Setup'-menu.


Press the «»key to go to the List Memory settings menu and press the «**Yes**» key to reset all.

# 6 Other important information

This Chapter gives information on error messages and instructions for cleaning your scale. It also includes the declaration of conformity and technical data.

## 6.1 Error messages

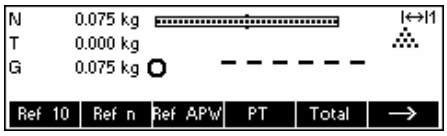



**Overload**

Reduce the load on the scale or the preload.


**Underload**

Place weighing pan on the scale and ensure that it can move freely.




**Weight reading does not stabilize**

- Ensure a tranquil environment.
- Ensure that the weighing pan is free to move.
- Change the setting of the vibration adapter (Chapter 5.4.6)


**Not possible to zero scale**

Ensure that the zeroing is only carried out in the permissible range and not under overload or underload conditions.

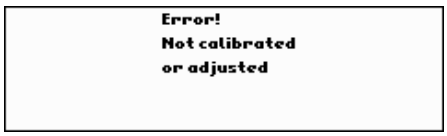


**Reference weight too low**

The weight placed on the pan is too small to define a valid reference weight for piece counting. Place a larger number of reference pieces on the scale.


**No valid value from reference scale**

This message is only given when piece counting with a 2-scale system. Check the connecting cable between the scales and the interface settings.




**No calibration/adjustment**

Disconnect the power cord plug and then plug it in again. (If operating on the battery, switch the scale off and then on again.) If the error message reappears, calibrate/adjust the scale (Chapter 5.4.1). If this does not help, contact your dealer or local representative.


**Value out of range**

This message is shown when a tare value is entered, exceeding the max. capacity of the scale.


**Reference piece weight too small**

When defining the reference weight, the scale has found that the resultant weight of one single piece is below the permissible limit. Piece counting is not possible for articles as small as this.


**Unstable weight when determining the reference weight**

When determining the reference weight, the reading did not stabilize, and the scale therefore cannot determine the reference weight of a single piece.

1. Ensure a tranquil environment.
2. Ensure that the weighing pan is free to move.
3. Change the setting of the vibration adapter (Chapter 5.4.6).


**EAROM checksum error**

Disconnect the power cord plug and then plug it in again. (If operating on the battery, switch the scale off and then on again.) If the error message reappears, contact your dealer or local representative.


**Chain Tare not allowed**

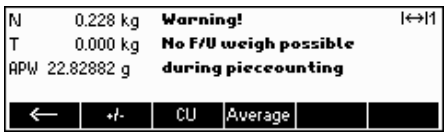
Chain Tare is deactivated in the Vision Menu ('Vision Setup → SCALE → Tare → Chain Tare'). This means it is not possible to tare the scale once there is already a value in the tare memory.


**Pushbutton Tare not allowed**

The scale cannot be tared using the «→**T**←» key because this feature was deactivated in the Vision Setup ('Vision Setup → SCALE → Tare → Pushb. Tare').


**Key not allowed in short input mode**

The function softkey that was pressed while in Short Input Mode (Chapter 3.1) is not compatible with Short Input Mode.




**Factor/Unit weighing not possible**

The application Factor/Unit weighing (Chapter 4.10) cannot be started while the scale is in piece counting mode. Either press the «**Weigh**» key to switch to weighing mode or press «**C**» to clear the APW which should automatically switch the scale to weighing mode.


**No valid input of reference pieces**

The reference number of pieces that was entered via «**Ref n**» → «**Var**» or Short Input Mode → «**Ref n**» was invalid. The reference weight determination will not be performed.


**Search string not found**

This warning appears if the bar code reader was configured for article searching ('Vision Setup → COMMUNICATIONS → PS2 → BCR') and the text read in by the bar code reader was not found in the article database.

## 6.2 Sample reports

**Weigh mode**

```
(c) Mettler-Toledo GmbH
    http://www.mt.com
------------------------

Date           17.07.2002
Time             15:28:12

G               0.0370 kg
T               0.2843 kg
N               0.3213 kg

************************
```

**Weigh mode with article**

```
(c) Mettler-Toledo GmbH
    http://www.mt.com
------------------------

Caramel 1365
Toffee Factory
000124245672

Date           17.07.2002
Time             15:32:32

G               0.6549 kg
PT              0.0630 kg
N               0.5919 kg

************************
```

**Count mode**

```
(c) Mettler-Toledo GmbH
    http://www.mt.com
------------------------

Date           17.07.2002
Time             15:13:51

G               0.4122 kg
T               0.0630 kg
N               0.3492 kg

Piece Wt       14.11524 g
Out of             10 PCS
QUANTITY           25 PCS

************************
```

**Count mode with article**

```
(c) Mettler-Toledo GmbH
    http://www.mt.com
------------------------

English Toffees 1060
Toffee Factory
000124254467

Date           17.07.2002
Time             13:46:50

G               0.3980 kg
PT              0.0630 kg
N               0.3350 kg

Piece Wt       3.450000 g
QUANTITY           97 PCS

************************
```

## 6.3 Variable and control sequences in entering a "Free Text"

| Description | Variable | Explanation | Example |
|---|---|---|---|
| Scale No. | $SCL | Number of the scale | 1 |
| Gross weight. | $GRS | Gross weight | 3.5 |
| Tare weight. | $TAR | Tare weight | 1.5 |
| Actual Display Unit | $UNT | Actual display unit | g |
| Net weight | $NET | Net weight | 2.0 |
| Average Piece weight | $APW | Average piece weight | 0.35 |
| Unit of Average Piece Weight | $APU | Unit of average piece weight | g |
| Ref Count | $REF | Reference | 10 |
| PCS(Quantity) | $PCS | Number of pieces placed | 15 |
| Article Name | $ANA | Name of article | U-Stahl 10X15 |
| Article Number | $ANU | Number of article | 221365/7 |
| Article ID1 | $AI1 | Article ID1 | 12345 |
| Article ID2 | $AI2 | Article ID2 | 67890 |
| ID1 | $ID1 | ID1 (Customer) | AIMa Systems |
| ID2 | $ID2 | ID2 (Order) | 220703 |
| ID3 | $ID3 | ID3 (Lot) | 17 |
| Date | $DAT | Date | 21.05.03 |
| Time | $TIM | Time | 11:52:17 |
| Target | $TGT | Target weight | 2123.5 |
| Tol - | $TOM | Negative tolerance | 10 |
| Unit of Tol- | $TMU | Unit of negative tolerance | % |
| Tol + | $TOP | Positive tolerance | 123.4 |
| Unit of Tol+ | $TPU | Unit of positive tolerance | % |
| Deviation | $DEV | Difference in regards to target as a weight or as a number of piece | - 1,5<br>- 4 |
| Consecutive No. | $CNO | Consecutive number | 23 |
| Factor weight | $CUW | Factor weight | 13 |
| Factor Unit | $CUU | Unit of factor | BRT |
| Totalisation Total Net | $ACN | Totalisation total net | 7500.4 |
| Totalisation Total Gross | $ACG | Totalisation total gross | 7825.2 |
| Totalisation Total Pieces | $ACP | Totalisation total pieces | 2345 |
| Totalisation Total Lots | $ACL | Totalisation total lots | 214 |

Note:

- An empty space is always inserted between the value and the unit.
- If a variable is not available (Example: $APW in Weigh Mode), the text "n/a" will be inserted.

**Entry of control codes in free texts:**

Control codes are generally entered as Hex-Code. The format is always **\xx**, where xx stands for hexadecimal value.

| Hex-Value | Meaning | Input |
|---|---|---|
| 01 | SOH (start command for specific printers) | \01 |
| 02 | STX (start command for specific printers) | \02 |
| 03 | ETX (send command for specific printers) | \03 |
| 04 | EOT (send command for specific printers) | \04 |
| 0A | Line Feed | \0A |
| 0C | Form Feed | \0C |
| 0D | Carriage return | \0D |
| 1B | ESC | \1B |

Note:

- This is only a list of the most commonly used sequences. All available sequences can be derived from any ASCII-Table.

## 6.4 Cleaning instructions

Disconnect the scale from the power supply before cleaning it!

Use a damp cloth (do not use acids, alkalis or strong solvents).

Wet cleaning is only allowable on scales with IP65 ingress protection.

If heavily contaminated, the weighing pan, protective cover (if fitted) and adjustable feet must be removed and cleaned separately.

With the weighing pan removed, never use a solid object to clean underneath the load plate support!

Observe your organization's internal rules and industry-specific regulations for cleaning intervals and permissible cleaning agents.

# 7 Technical data, interfaces and accessories

In this chapter you will find technical specifications for your scale, information about standards and directives, and a list of currently available accessories.

## 7.1 General data and delivered items

Applications
- Weighing
- Piece counting / Piece counting with second scale
- Totaling weighings and piece countings (also with 2nd scale)
- Weighing and piece counting to a target value (also with 2nd scale) (Filling)
- Checkweighing and counting (with Totalisation) (also with 2nd scale)
- Custom Unit
- Average Weighing
- Databank

Settings
- 5 units of weight
- Adding mode for reference definition (piece counting)
- Automatic reference optimization (piece counting)
- Vibration adapter
- Weighing process adapter
- Automatic tare function
- Automatic zero correction
- Power-saving shutoff
- Display backlighting
- Automatic saving of tare and zero

Display
- Active point-matrix display, 35 mm high, with CFL backlit (235 x 64 pixel)

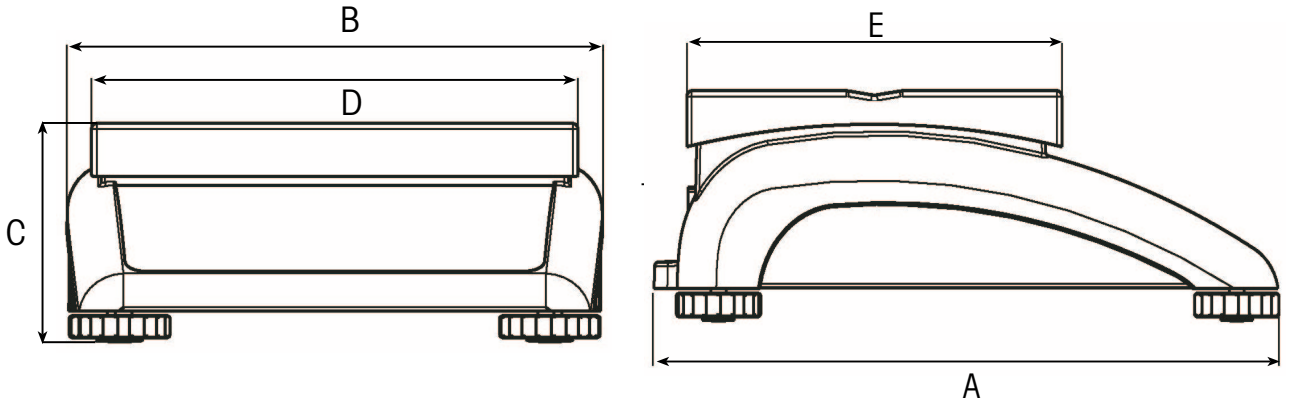
Interface
- 3 built-in RS232C interface (for data, see Chapter 7.3)
- PS2 interface for keyboard and barcode reader
- Optional interfaces available (Ethernet, USB and Analog 2-scale connection)

Environmental conditions
- Accuracy is guaranteed in the following ranges:

| Range | Strain Gauge (SG) | MonoBloc (MB) |
|---|---|---|
| Temperature range: | -10 … +40 °C / 14 … 104 °F | +10 … +30 °C / 50 … 86 °F |
| Relative air humidity: | 15 … 85 % (non-condensing) | 15 … 85 % (non-condensing) |
| Over voltage capacity: | II | II |
| Pollution degree: | 2 | 2 |

| | | | | |
|---|---|---|---|---|
| Power supply | Direct connection to AC power line (cable with country-specific power plug)<br>100-250 VAC / 47 – 63Hz / 0,3A<br><br>Connection for battery operation:<br>18 VDC / 0,6A | | | |
| Total weight | | | Stain gauge | MonoBloc |
| | Small platform: | line-voltage scale: | 4.6 kg | 4.7 kg |
| | | AccuPac scale: | 5.2 kg | 5.3 kg |
| | Large platform: | line-voltage scale: | 8.2 kg | 10.5 kg |
| | | AccuPac scale: | 8.8 kg | 11.1 kg |
| Ingress protection | IP43 | | | |
| Standard delivery package | Complete scale (terminal and weighing platform assembled)<br>Operating instructions | | | |

## 7.2 Dimensions



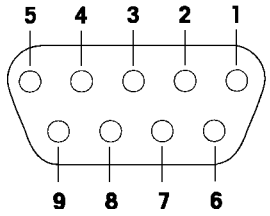

| | A | B | C* | D | E |
|---|---|---|---|---|---|
| Small platform (XS) | 335 | 265 | 110 | 165 | 165 |
| Small platform (SM) | 335 | 265 | 110 | 240 | 200 |
| Large platform (LA) | 370 | 360 | 115 | 350 | 240 |

All dimensions in millimeters

* with adjustable feet fully screwed in

## 7.3 Interface technical data

The scale is provided with an EIA RS-232C (CCITT V24/V.28) voltage-controlled interface as standard. Maximum cable length is 15 m. All interfaces are in the form of a 9-pin D-sub female connector. Instructions for configuring the interfaces are given in Chapter 5.9.

| **Interface** | | **1 (standard)** | **2 (standard)** | **3 (standard)** | **optional** |
|---|---|---|---|---|---|
| **Type** | | **RS232C** | **RS232C** | **RS232C** | **Analog** |
| **Pin assignment** | Pin 1 | --- | --- | --- | + Excitation (+8.2V) |
|  | Pin 2 | TxD | TxD | TxD | + Sense |
| | Pin 3 | RxD | RxD | RxD | Shield |
| | Pin 4 | --- | --- | --- | - Sense |
| | Pin 5 | GND | GND | GND | - Excitation (GND) |
| | Pin 6 | --- | --- | --- | --- |
| | Pin 7 | --- | --- | CTS | + Signal |
| | Pin 8 | --- | --- | RTS | - Signal |
| | Pin 9 | VCC | VCC | VCC | --- |



TxD: Transmit data
RxD: Receive data
GND: Signal ground
VCC: Power supply +5V

**Technical data for 'Analog' option:**

| **A/D-Converter** ('analog' option) | **Load cell** (weighing bridge to be connected to analog option) |
|---|---|
| Resolution (approved): 7'000 e | Power supply: 8.2 V |
| Resolution (not approved): 300'000 d | Impedance: 80 -1'000 R |
| Input signal (approved): 1.3 µV/e | Output signal: 2 mV/V |

## 7.4 Accessories

| | **Article No.** |
|---|---|
| Auxiliary display RS-PD/PASM | 21302875 |
| RS232 cable for auxiliary display 1.8m (9-pin D-Sub, m/m parallel) | 21302921 |
| Protective cover for small platform scale | 21203207 |
| Protective cover for large platform scale | 21203206 |
| Antitheft device | 00229175 |
| "Sprinter 1" printer, EURO version | 21253399 |

| | |
|---|---|
| "Sprinter 1" printer, UK version | 21253745 |
| "Zebra LP 2844" printer | 22009327 |
| "Zebra LP 2824" printer | 22009328 |
| RS232 cable for "Sprinter 1" printer 1.8 m (D-Sub 25/9-pin, m/m, null modem) | 21253677 |
| RS232 cable for "Zebra LP...." 1.8 m (D-Sub 9/9-pin, m/m, null modem) | 21252588 |
| RS232 cable for 2nd scale 1.8 m (D-Sub 9-pin, m/m, null modem) | 21252588 |
| RS232 cable for PC 1.8 m (D-Sub 9-pin, m/f, parallel) | 00410024 |
| Relay box LC-I/O | 21202217 |
| Miniature PS2 keyboard (US Version) | 21900944 |
| Protective cover for miniature PS2 keyboard | 21900945 |
| PS2 Barcode reader (with Y-cable to be connected to PS2 keyboard) | 21900881 |

## 7.5 Interface commands

Your scale can be configured and operated, and can communicate from a PC via RS232C interface (as well as Ethernet and/or USB interface), i.e. data transmitted to a PC.

### *7.5.1 Preconditions*

The following preconditions must be fulfilled to achieve communication between the scale and a PC:

- The scale must be connected to the RS232C interface of the PC using the necessary cable.
- The scale interface must be set in "Dialog" mode (see Chapter 5.9.1).
- A terminal program must be available on the PC (e.g. "Hyper Terminal").
- The communications parameters (protocol, bits and parity, data transfer rate) must be set using the same values in the terminal program and in the scale (see Chapter 5.9.3).

### *7.5.2 SICS Command set*

Your scale basically supports the **M**ettler **T**oledo **S**tandard **I**nterface **C**ommand **S**et (**MT-SICS**). The SICS command set used are **"Level 0"**, "**Level 1**", and some "**Level 2**" commands. Detailed information on the interface commands is given in the "MT SICS Reference Manual" (No. 705184, only available in English).

**Notes**:

- Every command line must be terminated with **<CR><LF>** (corresponding to the "Enter" or "Return" key on the PC keyboard). The command is then executed immediately. To correct a line, this needs to be entered again completely.
- For commands with parameters, the "_" symbol signifies an empty space, and in the examples given, serves solely to clarify the syntax.
- For commands that require text parameters, the quotation marks must be entered, as they indicate to the scale that they enclose a text string and not another parameter.

The following lists the supported MT-SICS commands:

| | |
|---|---|
| I0 | Inquiry of all implemented MT-SICS commands. |
| I1 | Inquiry of MT-SICS level and MT-SISCS versions. |
| I2 | Inquiry of scale data. |
| I3 | Inquiry of scale software version. |
| I4 | Inquiry of serial number. |
| S | Send stable weight value. |
| SI | Send weight value immediately irrespective of scale stability. |
| SIR | Send weight values repeatedly irrespective of scale stability. |
| Z | Zero the scale. |
| ZI | Zero the scale immediately irrespective of scale stability. |
| @ | Reset the scale to condition after switching on but without a zero setting being performed. |
| D | Write text into scale display. (E.g. D_"text"). |
| DW | Switch back to weight display after D command. |
| K | Configure key control. |
| SR | Send current stable weight value and then continuously on weight change equal to or greater than the preset value. (E.g. SR_10.00_g). |
| T | Tare the scale. |
| TA | Inquire or preset the tare weight value. |
| TAC | Clear the tare value. |
| TI | Tare immediately regardless of whether the current value is stable or not. |
| C2 | Initiate calibration. |
| I10 | Inquire or set the scale ID. |
| I11 | Inquiry of scale type. |
| DAT | Inquire of set the date on the scale. |
| P100 | Print out text on the printer. (E.g. P100_"text"). |
| P101 | Print out current stable weight value. |
| P102 | Print out current weight value irrespective of scale stability. |
| PWR | Switch the scale on or off. |
| ST | Send stable weight after pressing the «  » key. |
| TIM | Inquire or set the time on the scale. |
| SU | Send stable weight value with currently displayed unit. |
| SIU | Send weight value with currently displayed unit immediately irrespective of scale stability. |
| SIRU | Send weight value with currently displayed unit immediately and repeat. |
| SRU | Send stable weight value with currently displayed unit and repeat on weight change greater than or equal to preset value. |

Aside from the standard MT-SICS commands, Smart Count also provides the following commands for working with the scale:

M01 Inquire or set the weighing mode ('Vision Setup → SCALE → Filter → Process': Chapter 5.4.6).

| | |
|---|---|
| M01 | Inquiry of weighing mode. |
| M01_0 | Set weighing mode to "Universal". |
| M01_1 | Set weighing mode to "Filling". |

M03 Inquiry or setting of AutoZero ('Vision Setup → SCALE → Zero → Auto Zero': Chapter 5.4.4).

| | |
|---|---|
| M03 | Inquiry of AutoZero mode. |
| M03_0 | Set "AutoZero" to off. |
| M03_1 | Set "AutoZero" to on. |

M09 Inquiry or setting of display contrast ('Vision Setup → TERMINAL → Device → Contrast': Chapter 5.6.3)

| | |
|---|---|
| M09 | Inquiry of display contrast. |
| M09_x | Set the display contrast to x% where x can have a value of 0-100. |

M10 Inquiry or setting of weight display size ('Vision Setup → TERMINAL → Device → Weight display': Chapter 5.6.5).

| | |
|---|---|
| M10 | Inquiry of weight display size. |
| M10_0 | Select small weight display. |
| M10_1 | Select big weight display. |

M11 Inquiry or setting of the beeper status ('Vision Setup → TERMINAL → Device → Beep': Chapter 5.6.7).

| | |
|---|---|
| M11 | Inquiry of beeper status. |
| M11_0 | Switch beeper off |
| M11_1 | Switch beeper on. |

M14 Inquiry or setting of language ('Vision Setup → TERMINAL → Device → Language': Chapter 5.6.1).

| | |
|---|---|
| M14 | Inquiry of language setting. |
| M14_x | Set the language to the value of x where x can be:<br>0 = English<br>1 = German<br>2 = French<br>3 = Spanish<br>4 = Italian<br>7 = US English |

M16 Inquiry or setting of the sleep status ('Vision Setup → TERMINAL → Device → Sleep': Chapter 5.6.2)

| | |
|---|---|
| M16 | Inquiry of "Sleep" status. |
| M16_x | Set the "Sleep" status to the value of x where x can be:<br>0 = Off<br>1 = 1 minute<br>2 = 3 minutes<br>3 = 5 minutes |

M19 Inquiry of adjustment weight.

M21 Inquiry or setting of "Unit1" ('Vision Setup → SCALE → Display': Chapter 5.4.2) and display unit.

| | | |
|---|---|---|
| M21 | Inquiry of "Unit1" and display unit. | |
| M21_Des_x | Set the "Des" unit to the value of x where | |
| | Des: | x: |
| | 0 = Unit 1 | 0 = g |
| | 1 = Display unit | 1 = kg |
| | | 2 = t |
| | | 7 = lb |
| | | 8 = oz |

PW Inquire or set the value of Average Piece Weight.

| | |
|---|---|
| PW | Inquire the value of Average Piece Weight. |
| PW_val_unit | Set the value of the Average Piece Weight. |
| Example: | PW 100.0 g |

I31 Inquire or define the record header for printouts.

| | |
|---|---|
| I31_x | Inquiry the definition for the x header line. |
| I31_x_"text" | Define the text for a specific header line where: |
| | x 1..5 |
| | text String of characters with a maximum of 24 characters. |
| Example: | I31_1_"Mettler Toledo GmbH" |
| | I31_2_"Heuwinkelstrasse" |
| | I31_3_"CH-8606 Naenikon" |
| | I31_4_"Telefon 01/944 22 11" |
| | I31_5_"Internet www.mt.com" |

SWU Switch the displayed unit from "Unit1" to "Unit2" and vice versa.

PRN Initiate a printout of the current stable weight or number of pieces.

ICP Configure customer-defined printout ('Vision Setup → COMMUNICATIONS → Def. String').

| | |
|---|---|
| ICP_? | Send this command to get a response from the scale with details about how to use the ICP MT-SICS command. |

SIH Send the current weight value displayed in control mode, i.e. with a higher resolution, immediately irrespective of scale stability.

SNS Enables switching between Scale 1 and Scale 2.

SNS x The scale number x (1 or 2) will be controlled.

RST Restart of the scale.

RST The scale will be restarted.

CU Transfers the custom unit including its value

CU S Value Unit once a stable result is reached.

CU D Value Unit if the result is unstable.

Example:

CU S 200 meter

AMR Available only in scales with optional Alibi Memory. This command enables the user to send his data saved in the alibi memory, to a PC.

Example:

| | |
|---|---|
| AMR ALL | Transmit all data |
| AMR LAST | Transmit the last (i.e. newest) data record |
| AMR FIRST | Transmit the first (i.e. oldest) data record |
| AMR ID 1000 2000 | Transmit data record with (constantly incr.) number 1000 to 2000 |
| AMR DT 06.02.03 | Transmit data records from 6. 2. 2003 |
| AMR TM 08:00:00 09:00:00 | Transmit data records stored from 08:00 to 09:00 |
| AMR S 2 | Transmit data of second scale |
| AMR N 1 2 | Transmit data records with net weight from 1 to 2 [current unit] |
| AMR T 0.1 0.2 | Transmit data records with tare weight from 0.1 to 0.2 [current unit] |
| AMR PT 1 | Transmit only data records with pre-tare weights. |
| AMR AUX A | Transmit all data records with an auxiliary field that starts with 'A' |
| AMR SEP ";" | Set separator character between data records as ';' |

The commands starting with AMR ID, and below, can also be combined in one command line:

AMR ID 100 200 DT 01.05.2003 31.05.2003 TM 8:00:00 9:00:00 S 2 N 1 3 T 0.5 1 PT 1 AUX B

The response contains always all the following data, separated by spaces:

AMR B IncrNo Date Time Net Tare [P]T Scale AuxiliaryField<CR><LF>

| | |
|---|---|
| AMR A | Command executed, i.e. transmission is finished |
| AMR L | Parameter wrong, e.g. incrementing number is 0 or higher than the highest record |
| AMR I | Command not executable at the moment (no alibi memory, scale busy etc) |

Note: AMR FIRST and AMR LAST are transmitting only one line. Therefore, an 'A' is placed instead of 'B':

AMR A IncrNo Date Time Net Tare [P]T Scale AuxiliaryField<CR><LF>

## 7.6 Declaration of conformity

We, **Mettler-Toledo (Albstadt) GmbH, Unter dem Malesfelsen 34, D-72458 Albstadt** declare under our sole responsibility that the product

**Viper Smart** from serial no. 2511380,

to which this declaration relates, is in conformity with the following directives and standards:

| **Directive** | **Applicable standard** |
|---|---|
| Relating to electrical equipment designed for use within certain voltage limits (73/23/EEC; amended by directive 93/68/EEC) | EN61010-1 (Safety Regulations) |
| Relating to electromagnetic compatibility (89/336/EEC; amended by directive 93/68/EEC; 92/31/EEC) | EN61326-1 |
| Relating to non-automatic weighing instruments (90/384/EEC; amended by directive 93/68/EEC) [1)] | EN45501 [1)] (Metrological Aspects) CE **[year]** [1)] [code] M |

[1)] Applies only to certified scales (approved/tested certificate no. T5508 for scales with strain gauge cells, T5627 for scales with "MonoBloc" cells).

Albstadt, July 2002

Roland Schmider, General Manager

Mettler-Toledo GmbH

Heiko Carls, Quality Manager

**Important notice for verified weighing instruments in EC countries**


Weighing instruments verified at the place of manufacture bear the preceding mark on the packing label and a green "M" sticker on the descriptive plate. They may be set to work immediately.


Weighing instruments which are verified in two steps have no green "M" on the descriptive plate and bear the preceding identification mark on the packing label. The second step of the verification must be carried out by the approved Mettler-Toledo service or by the W&M authorities. Please contact your Mettler-Toledo organization.

The first step of the verification has been carried out at the manufacturing plant. It comprises all tests according to EN45501-8.2.2.

If national regulations in individual countries limit the period of validity of the certification, the operator of such a scale is himself responsible for its timely re-certification.

***USA/Canada***

*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to both Part 15 of the FCC Rules and the radio interference regulations of the Canadian Department of Communications. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. 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.*

*Cet appareil a été testé et s'est avéré conforme aux limites prévues pour les appareils numériques de classe A et à la partie 15 des règlements FCC et à la réglementation des radio-Interférences du Canadian Department of Communications. Ces limites sont destinées à fournir une protection adéquate contre les interférences néfastes lorsque l'appareil est utilisé dans un environnement commercial. Cet appareil génère, utilise et peut radier une énergie à fréquence radioélectrique ; il est en outre susceptible d'engendrer des interférences avec les communications radio, s'il n'est pas installé et utilisé conformément aux instructions du mode d'emploi. L'utilisation de cet appareil dans les zones résidentielles peut causer des interférences néfastes, auquel cas l'exploitant sera amené à prendre les dispositions utiles pour palier aux interférences à ses propres frais.*

## Index

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 22009310B Printed in Germany 1003/2.12

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