SC-A1 Manual

User

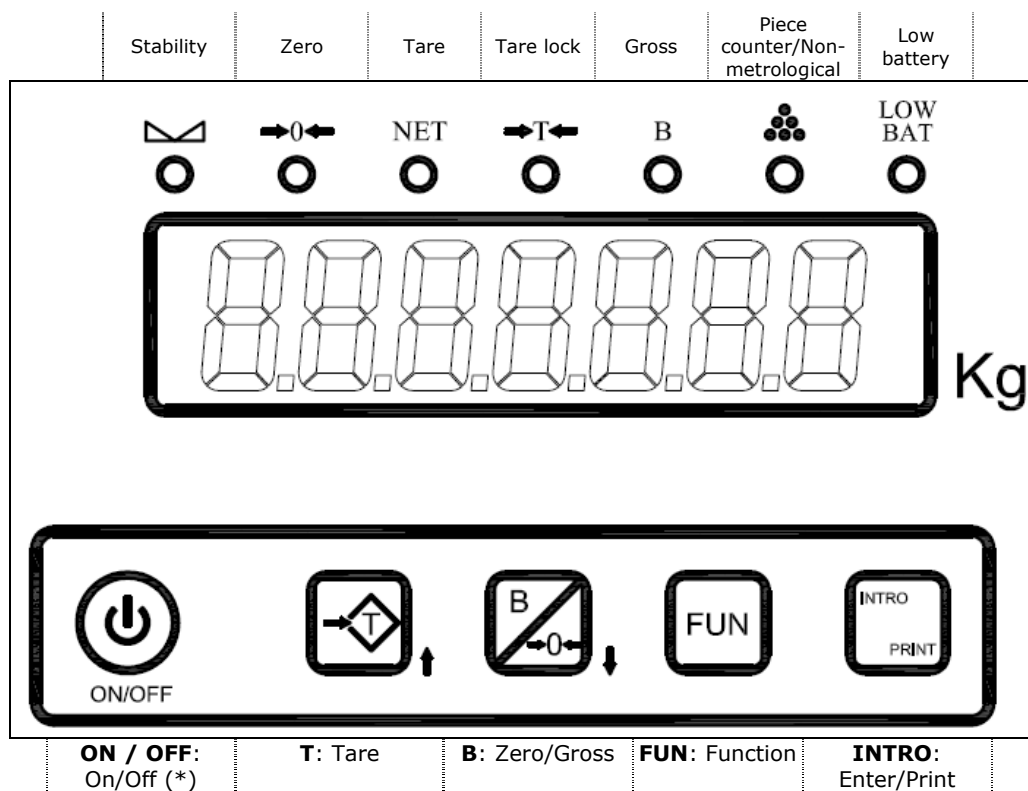| **SC-A1**	
	Advanced weighing equipment with ABS or INOX finish, high contrast LED or backlit LCD display and 5-key keyboard.

COMPLETE USER MANUAL

Features

- ✪ **Weight-Tare-Piece counter** with possibility of **options and add-ons**.
- ✪ **Keys exclusively for the** classic weighing system, similar to previous units, in the line of **SC1**.
- ✪ **Clear, intelligible** weighing **symbols** for improved, more **convenient reading** of the data displayed.
- ✪ Printing of **weight** on the platform with **large**, **notable size**.
- ✪ **Clock/Calendar** fitted as standard.
- ✪ Quicker weighing **system** optimised for greater **fluidity, accuracy** and exactness.
- ✪ **Intuitive** menu system.
- ✪ Enter menu with fully configurable, flexible **scale**, **fraction** and **decimals**.
- ✪ **Auto-calibration** without having to re-adjust the weight when changing scales.
- ✪ **On/off** by key.
- ✪ Option to **manually set** the weight, for optimal, quick calibration.
- ✪ **Piece counter** function with more than **a million internal** points.
- ✪ Dedicated **animal weighing function** as standard.
- ✪ Smart **display-repeater function**, with possibility of repeating most **market protocols**.
- ✪ **Extended accumulation**: millions of accumulations with 64 bit totaliser.
- ✪ **Standard manual** tare.
- ✪ **Accumulation** and **auto-accumulation** of serial weighings.
- ✪ **Automatic totalling** of serial weighings.
- ✪ **Accumulated Grand Total**.
- ✪ Configurable number of lines to finish ticket and delays per printed line.
- ✪ **Repeat ticket** and optional **ticket per weighing**.
- ✪ Dedicated selectable connection to the **most used printers**.
- ✪ **Label** printing function (connection to Godex and Zebra labeller).
- ✪ Possibility of serial communications up to **115200 baud rate**, N81, E71 and O71.
- ✪ **Self-test of the default serial communication channels**.
- ✪ Continuous programmable **send time**.
- ✪ Optional **auto-zero in negative** to prevent zero errors of the scales in hostile environments.
- ✪ Energy-saving and optimisation measures: **low consumption mode and programmable power-off due to inactivity**.
- ✪ **Transfer of external data** and configuration **from PC** of the display parameters.
- ✪ Battery status **indicator** (in versions with battery).
- ✪ Possibility of **independent auto-calibration** of each display.
- ✪ **Multirange** totally programmable, flexible twin scales.
- ✪ **Linearisation** up to 16 points which can be easily defined by the user.
- ✪ Large selection of **compatible printers** with optional auto-cutter.
- ✪ **Auto-calibration** of analogue cell systems
- ✪ **Customer-programmable password**.
- ✪ 6 **languages**: Spanish, Portuguese, French, Italian, English and German.

INDEX

1 DISPLAY AND KEYBOARD DESCRIPTION

Stability	Zero	Tare	Tare lock	Gross	Piece counter/Non-metrological	Low battery

ON / OFF: On/Off (*)	T: Tare	B: Zero/Gross	FUN: Function	INTRO: Enter/Print

Environment	Key	Descriptions (standard functions)
Always	**ON/OFF**	With the equipment power off, pressing the key turns the equipment on. With the equipment power on, **long press** the key (more than 2 seconds) turns the equipment off.
Entering data of 3 figures or less	**T**	**Increase**. Keeping it pressed down for a few seconds **increases 10 by 10** when the lights scroll is completed.
	B	**Decrease**. Keeping it pressed down for a few seconds **decreases 10 by 10** when the lights scroll is completed.
	FUN	**Leave**.
	INTRO	**Save** and **exit**.
Entering data digit by digit	**T**	**Increase** digit.
	B	**Change** the digit to be modified (indicated by the corresponding decimal point).
	FUN	**Leave**.
	INTRO	**Save** and **exit**.
Weighing	**T**	Carries out **tare / tare lock / tare unlock**.
	B	Zero is set. If there is a tare, the weight display mode is: **net/gross**.
	FUN	Special **key** to combine with any of the others: -**T**: Enter **manual tare** / r**elays menu** (if active) -**B**: **Functions menu** -**ENT**: **Totalise** If the **Piece Counter** option is active, pressing **during scroll** will switch between **weight/pieces.**
	INTRO	The weighing is accumulated and **printed**. If there is an active dosing programme, the **START/STOP** function is carried out.

2 FUNCTIONS MENU

To enter: FUN+B

(The optional ones are shaded)

Option	Description	Actions
➢ **-CODE-**	Code of weighing in progress.	(6 alphanumeric characters).
➢ **N.LABEL. (**)**	Label number.	**T**/**B** to modify (0. .255 different labels). The 255 label is the total label. (It appears only when a labelling machine has been selected in the programming menu). *NOTE: See* **Programming Manual** *for more information.*
➢ **TICKET (***)**	Delivery ticket/note number.	(6 decimal digits). If 0, it will not appear in the ticket. Otherwise it will increase automatically. (It does not appear in the equipments with DSD option)
➢ **TIK.REP.**	Repeat ticket	(0. .15 automatic tickets). Up to 255 weighings. Each time a ticket is closed, proceed in accordance with the values: -0: Normal operation (it does not repeat ticket). -1: You will be asked whether to repeat the ticket. -2. .15: There will be as many tickets as the value.
➢ **SUBTOT**	Shows the accumulated weight subtotal so far.	**INTRO** to show the total accumulated weights and the total weight. This will return to weighing state in a few seconds.
➢ **AUTOAC**	Auto-accumulation when stability is reached.	Yes/No
➢ **AUT.TAR**	Auto Tare when stability is reached after passing through zero.	Yes/No
➢ **NU.ACUM (*)**	Number of accumulations before automatic totalling.	(0. .255 accumulations).
➢ **W.UNIQ. (*)**	Single weighing mode selection.	Yes/No There will be a complete ticket for each weighing (and also when totalising weighing).
➢ **BIG.TOT**	Grand Total. Shows the accumulated weight total since the last time its value was reset.	**INTRO** to show the accumulated grand total. **INTRO** during scroll: Prints and deletes the accumulated grand total. **INTRO** kept pressed during the *scroll*: Prints and erase the total accumulated.
➢ **F.WEIGHT**	It displays the maximum weight. When pushing [INTRO] the memorized weight is erased and recalculates a new maximum.	Yes/No
➢ **HI-RES**	High resolution. Shows the weight with another precision digit (Weight x 10)	**INTRO** for high resolution weighing. **B** makes a ZERO in the equipment.
➢ **PIECES (*)**	Advanced piece counter. Selects Piece counter mode	Yes/No When activated: -**FUN** during scroll: Change pieces/weight.

➢ **DISCHA. (*)**	Accumulation in download.
	Process (once in weight mode):
	  1- With full container press **T**.
	  2- Empty container and press **INTRO**.
	(repeat process until finishing with **FUN** + **INTRO**)
		Yes/No

➢ **GROSS (*)**	Select ticket printing type GROSS-TARE-NET. (There will be a tare automatically after each accumulation)	Yes/No
➢ **P.ANIM. (*)**	Dynamic weighing for animals	**INTRO** to access submenu. **FUN** to exit submenu. **T/B** to navigate submenu.
--ON--		Yes/No Activate before editing the following values.

			At high speed, it will be made an elevated number of weight samples with which the weight is calculated and the average is displayed at the end of the process.
		LOW.BOW.	(6 digits). Inferior limit of weight: -Weight values below this value are rejected. With AUTOMA=YES, waiting time T.INI is initiated when the weight exceeds this value.
		HIG.BOW	(6 digits). Superior limit of weight: - Weight values above this value are rejected.
		INIT.T.	(0.. 25,5 seconds). With AUTOMA=YES. Waiting time before initiating the process of sample weight.
		AWG.TIM	(0.. 25,5 seconds). Waiting time of the process of sample weight
		AUTOMA	Yes/No: Yes -> Weight sample is automatically initiated once INIT.T. time is passed after the weight value defined in LOW.BOW is exceeded. No -> The equipment waits for the pressing of **INTRO** key to initiate the process of weight sample. (It does not wait for INIT.T. even though the LOW.BOW is exceeded).
➤	**IND.BAT.**	Battery status indicator. (Only in units with battery)	**INTRO** to see the battery status. If there is no battery: **NOBAT** If there is a battery: **-OK-** If there is low battery: **-BATB-**
➤	**CLOCK**	Shows/Sets the clock and calendar.	**INTRO** to access submenu.
		TIME	Displays the current time. (HH: MM: SS) **INTRO** to edit: **T/B** to modify (6 decimal digits). **INTRO** to save. **FUN** to leave.
		DATE	Displays the current date. (DD. MM. YY) **INTRO** to edit: **T/B** to modify (6 decimal digits). **INTRO** to save. **FUN** to leave.
➤	**-CELLS-**	Display points and weight of each load cell. (Only in equipments with communication cartridge for digital load cells)	**INTRO** to access submenu. **FUN** to exit submenu **T/B** to increase/decrease the number of load cell. **INTRO** to select load cell.
		CEL. xx (load cell selection with **T** /**B**)	**INTRO** to commute between points and weight. **T** to select next load cell. **FUN** to exit and come back to load cell selection menu.
➤	**-DSD- (*)**	Consult and print data saved in DSD memory. (Only in equipments with DSD)	**INTRO** to enter the Ticket / Delivery Note selection menu.
		nnnnnn Selection of ticket to consult (by default, it displays the number of the last ticket made)	**T/B** to edit number of ticket (6 decimal digits). **INTRO** to select and initiate the visualization of number of weighings and the total accumulated weight from the selected ticket, or display EMPTY if there is no data.

(*)   This option **DOES NOT** appear if there is an open ticket. (Close ticket by pressing **FUN** + **T** in Weight mode)
(**)   This option **DOES NOT** appear if any communication **PORT** of the equipment no has not been configured to connect to the labelling machine. (See option -COM- from Programming menu).
(***)   This option **DOES NOT** appear if the equipment has DSD. (With DSD option the equipment does not allow manual modification of the number of Ticket / Delivery Note)
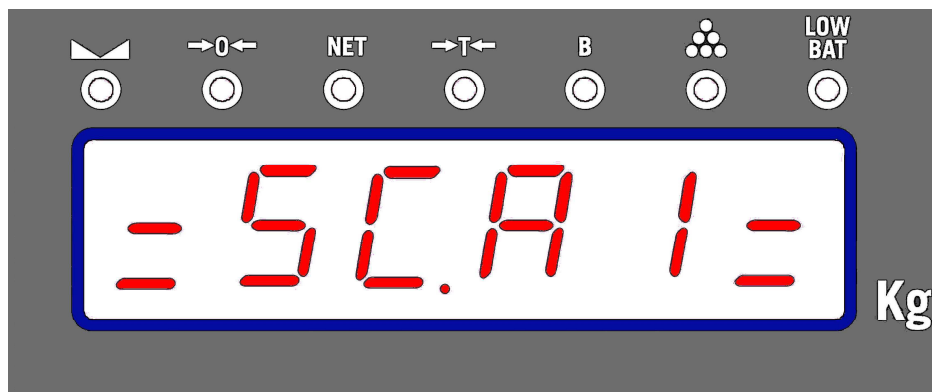
# 3 INSTRUCTIONS AND GENERAL OPERATION MODE

When starting up the unit, the ON/OFF key can be pressed to carry out an initial test, showing all the display's digits and pilots.
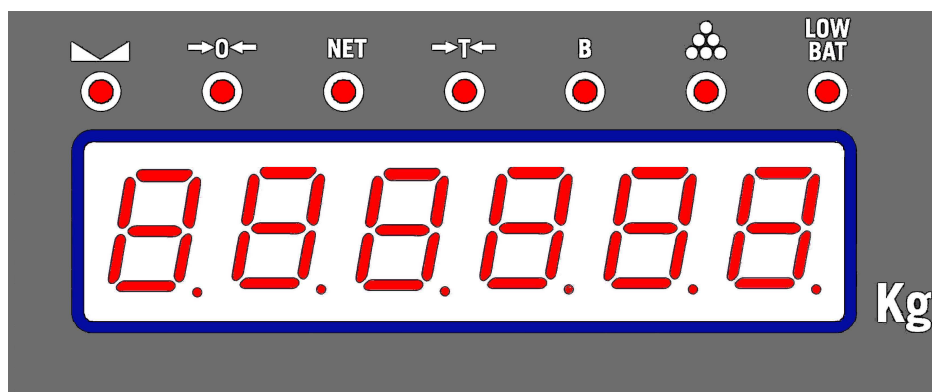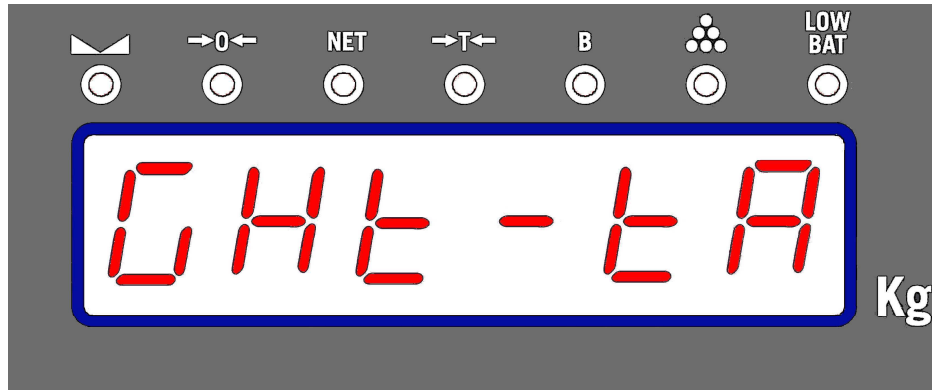

The equipment identifier is then displayed:

Then, if the equipment has dead weight (units with weight module or digital cell communication), the counter value is shown the number of times the unit's metrological (weight) parameters have been modified.
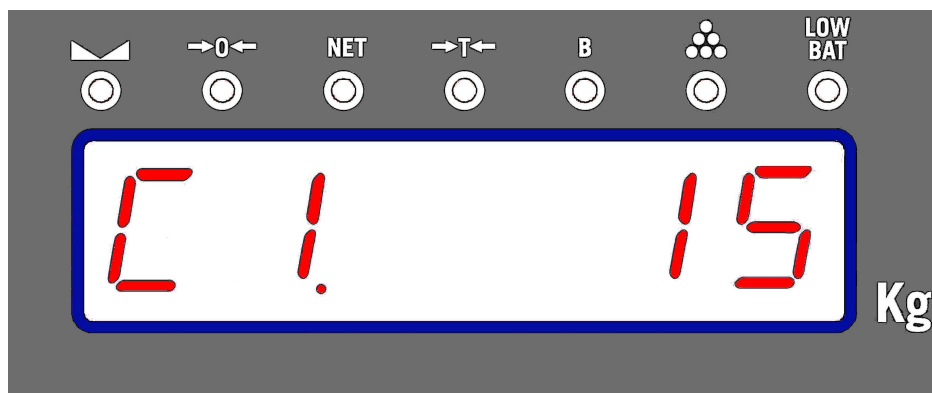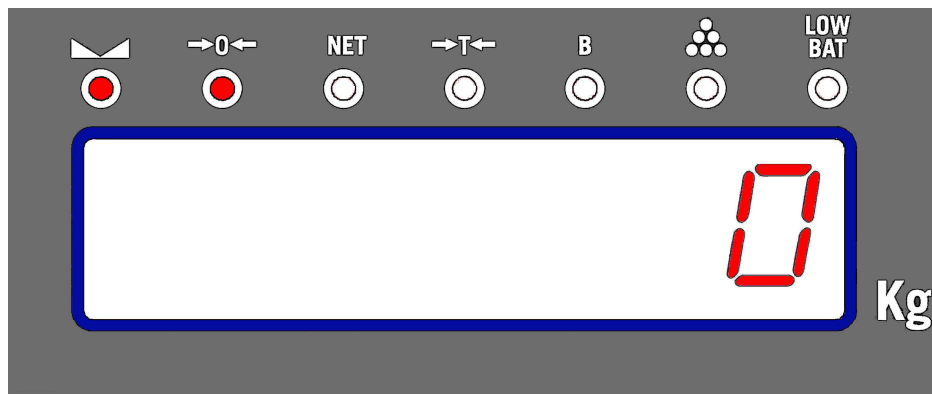

Finally a message (banner type) describing the different functions of the unit is displayed.

> **Both the text of the banner displayed when starting up the unit and the headers and footers of the tickets can be defined by the user using the SENSODATA program.**

Once complete, the unit again shows the measured weight (weight mode).

3.1 Ordinary weighing (Net/gross tare, tare lock)

By defect, the unit will start up showing the weight on the platform:
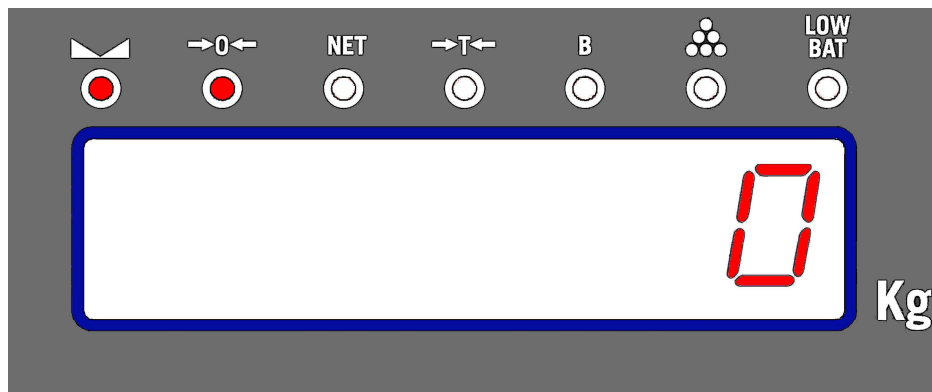
3.1.1 Quick zero:

Whenever, without any weight on the platform, the unit shows a weight value other than zero.
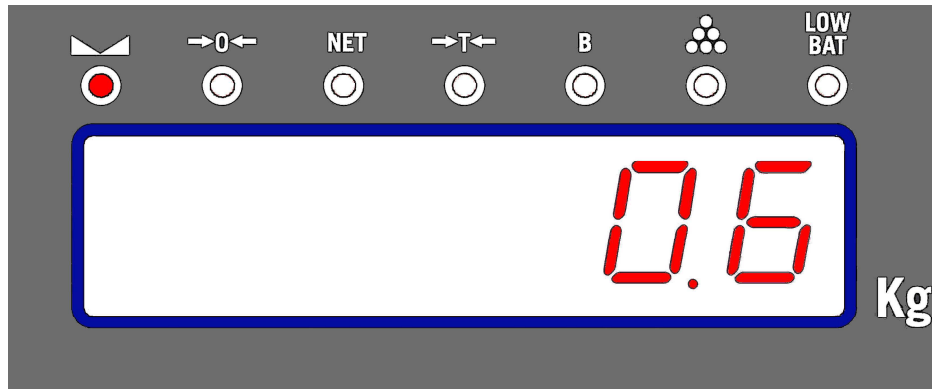
The zero should be manually corrected by pressing the **B** key.
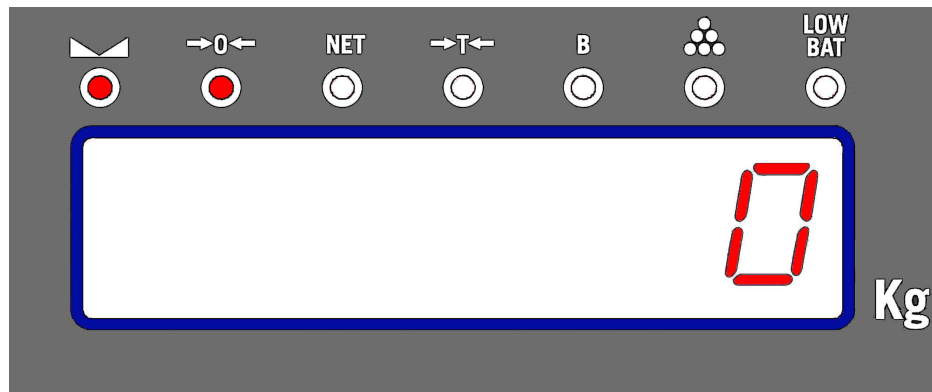
> **The machine can automatically reset at start-up enabling the INIT.Z option in the WEI.OPT. programming submenu**.

3.1.2 Stability

The display shows the measured weight variations. The speed with which the changes and the degree of weight stability shown are displayed depend on the values set in the filter parameters. (Options **STAB.T**, **FILTER** and **FIL.DEP** in the Programming Menu).

As soon as the weight stabilises, the display activates the stability pilot (◹) to indicate the condition of stable weight.
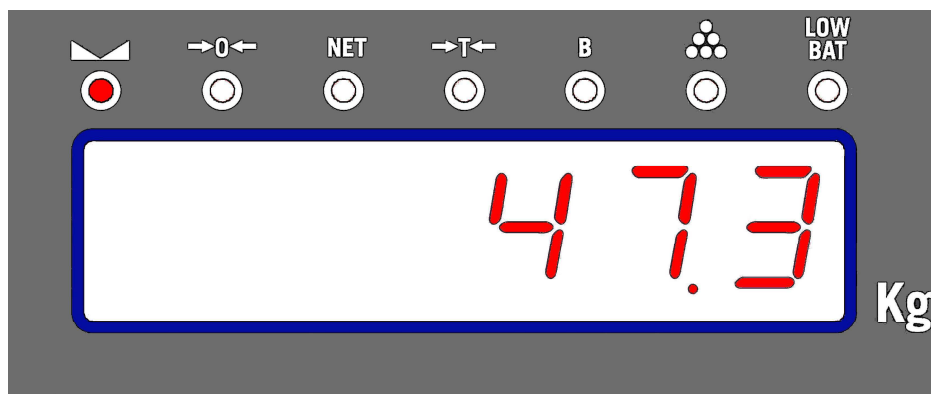
> **Most of the actions carried out by the display (tare, print ticket, start load or discharge of dose, etc.) are associated with stable platform condition (stable weight).**

3.1.3 Quick tare

Pressing the **T** key when the unit shows stable weight other than zero causes the unit to tare the weight on the platform, making the weight value displayed on screen pass to 0 and activating the pilot **NET**.
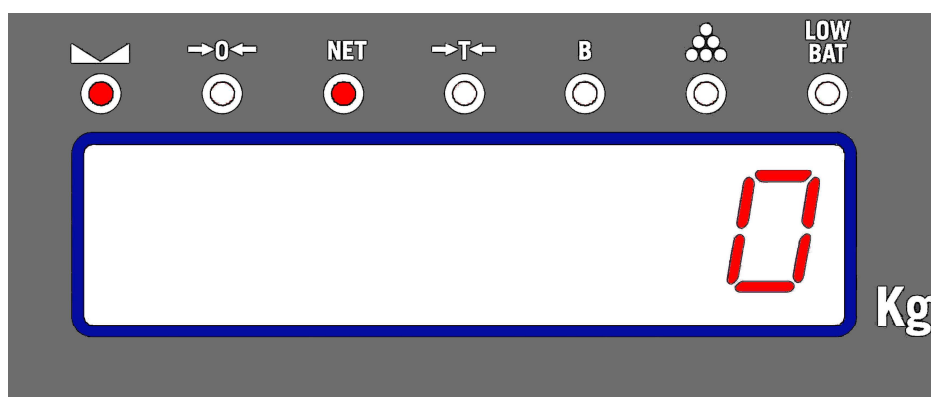

As of this moment, the display shows the net weight whenever the platform weight changes.

Whenever the net weight displayed is not zero, pressing the **T** key again causes the unit to carry out a new Tare.

> **The Quick Tare function it's only available when the number of divisions of gross weight is bigger than the one defined in the minim weight option (WEI.MIN) in the WE.CTR programming submenu.**

3.1.4 Gross weight/net weight:

With the unit tared, pressing the **B** key allows switching between net weight and gross weight on the display.

To indicate that the weight shown on the display corresponds to gross, enable both the **B** pilot and the **NET** pilot:
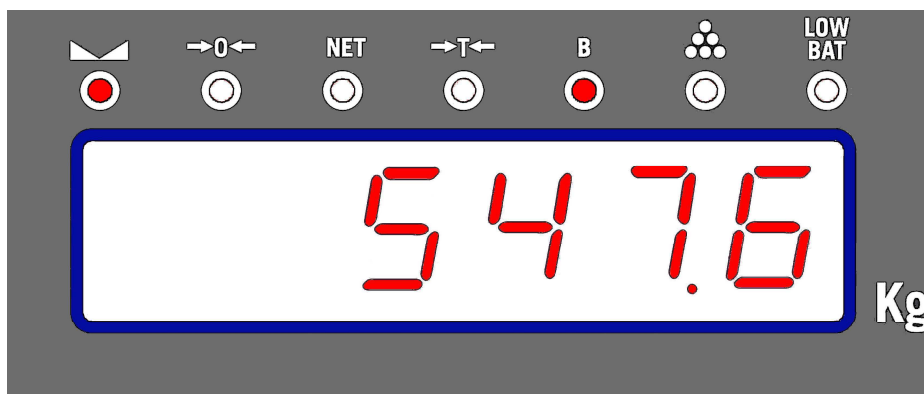

Tare is automatically disabled when all the weight is removed from the platform, deleting and re-displaying the gross weight:
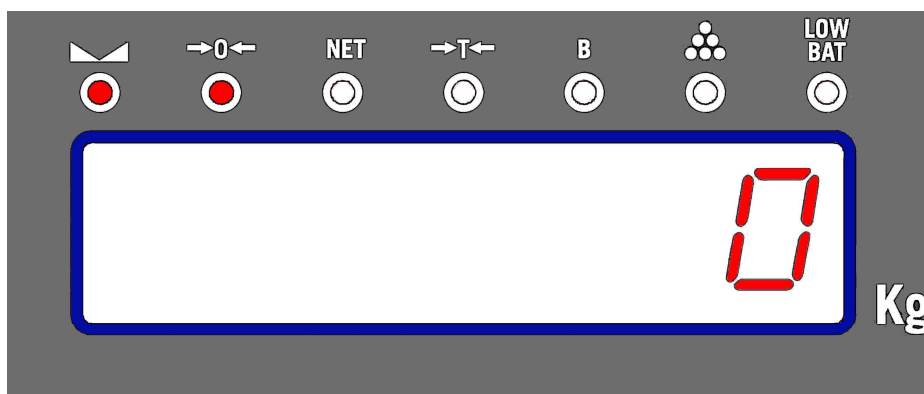
3.1.5 Tare lock

To prevent tare from being disabled when all the weight is removed from the platform, press the **T** key a second time when the net weight shown is zero (pressing once tares the weight, and pressing twice locks tare).

Locking the tare activates the unit's **>T<** pilot in order to indicate locked tare. As of this moment, and always when the net weight shown is zero, the **T** key can switch between tare and tare locked modes.
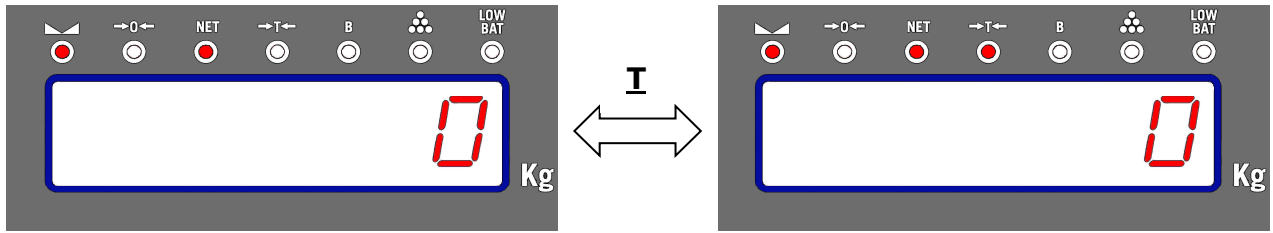
> **The tare lock function is only available if initial zero option (INIT.Z) has been enabled in the WE.CTR programming submenu.**

3.2 Manual tare

The unit allows a tare value to be defined manually (*). To do this, press the **FUN** and **T** keys at the same time without leaving weight mode. The unit will enter manual tare edit mode, with the rightmost digit flashing to indicate the tare at this moment. To change the tare value displayed, use the **T** key to increase the flashing digit value, the **B** key to change digit, the **FUN** key to cancel and leave without validating, and the **ENTER** key to validate the tare value entered, taring the unit whilst locking the Tare.
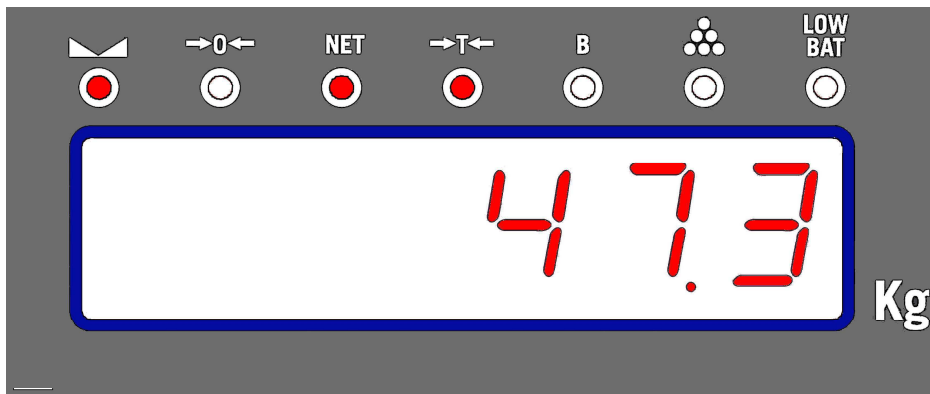
When a manual tare is active, printing the tare on a ticket will be accompanied by the symbol "*", indicating that weighing was carried out with a manual tare.

```
========================================
N.WEIGH.  CODE      TARE kg      NET kg
========================================
     1    100350    *  21.57       0.216
```

> **(*) The manual tare function is NOT available if the limit, traffic light or any dose option is enabled (options available through the APPLIC programming submenu).**

3.3 Extended accumulation and totalisation of weighings

The unit can account for weight (accumulate weighings), using the data to print a ticket per printer and/or label and/or send the weighing data through the serial communication ports (**PORTS**).

The unit allows individual weighings (printing a ticket for each weighing) or multiple weighings (with several weighings in the same ticket and finalised with a total) to be done automatically (when detecting stable weight on the platform) or manually (by pressing the **INTRO** key when the unit displays stable weight).

Three conditions must be met in order for the unit to account for a weight (carry out weighing): there must be stable weight, which exceeds the value defined as minimum weighing (*), with the weight dropping below the minimum weight necessary to carry out weighing at some point since last weighing (i.e. the last weighing has been discharged).

> **Single weighing is selected using the W.UNIQ. option in the Functions menu.**
>
> **Automatic weighing mode is selected using the AUTOAC option in the Functions menu.**
>
> **(*) The minimum weight value for a weighing is determined using the WEI.MIN option in the unit's Programming menu.**
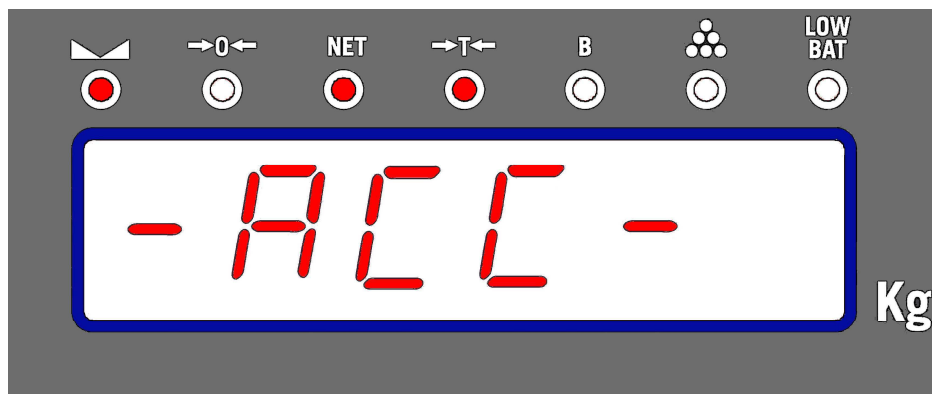
3.3.1   Manual accumulation

In order to carry out manual accumulation, press the **ENT** key when the unit shows a stable weight value above the value defined as minimum weighing.
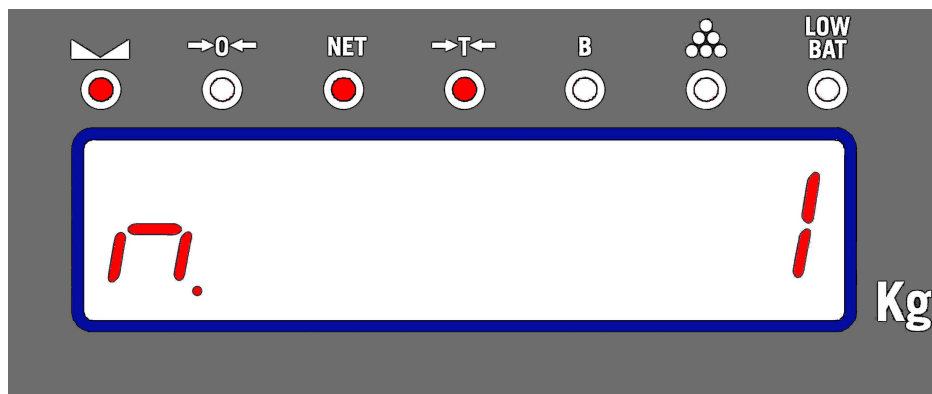
The following example assumes a stable weight of 1,754 kg, which we have previously tared manually at 1,538 kg. (1754-1538 = 0.216).
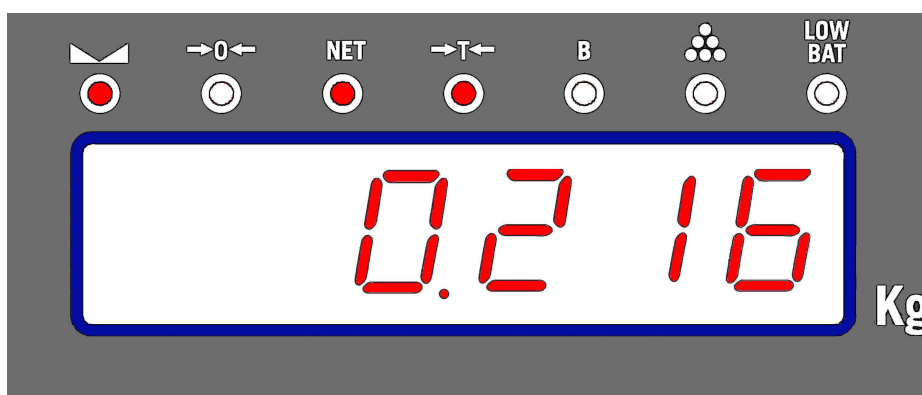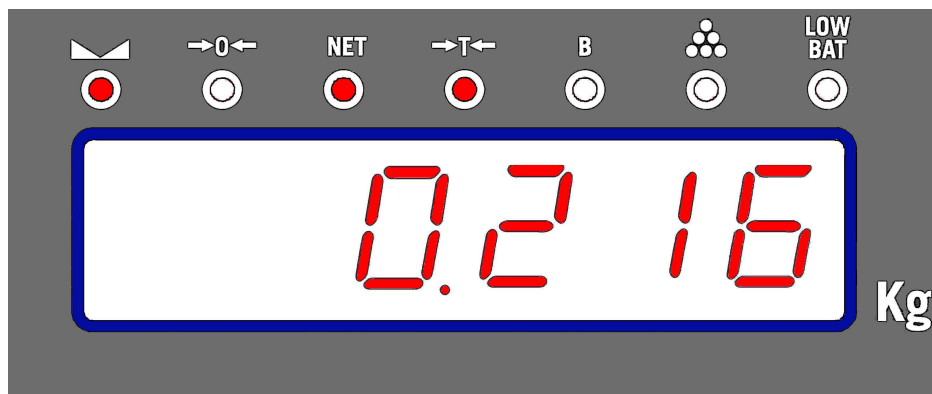
Start manual weighing by pressing the **ENT** key to display the message:

The unit then briefly displays the number of weighings accumulated so far (in our case, the first):
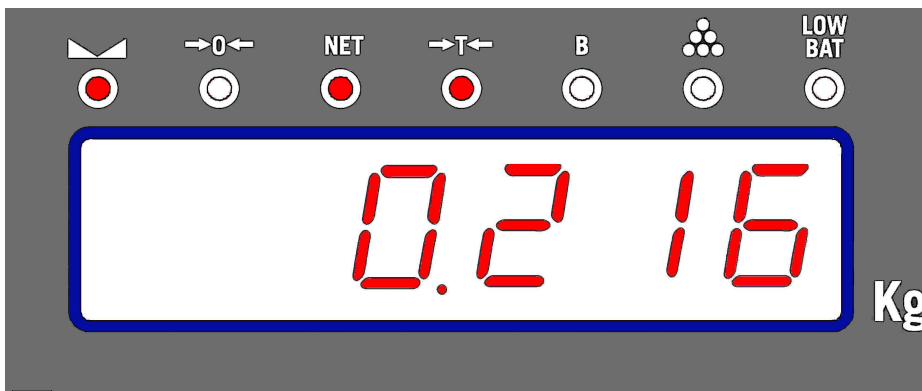

And the accumulated weight subtotal (which, in our case, since it is the first weighing, coincides with the weighing made)

Once weighing is complete, the unit returns to weight mode and displays the weight on the platform.

If the unit is connected to a printer, and, for example, the code "100350" has been entered (using the **-CODE-** option in the functions menu), the following ticket will have been printed:

```
=======================================
N.WEIGH.   CODE      TARE kg     NET kg
=======================================
     1    100350    *  1.538       0.216
```

If the code introduced is 0 (default value when starting up the unit), nothing appears in the CODE field of the ticket.

At the same time, if a PC connection has been configured in any of the serial communication PORTS with **MANUAL** send, pressing the **T** key causes a frame to be sent with the weight on the platform at this moment.

All the unit's serial communication PORTS can be configured (from the -COM-programming submenu) to connect to a printer, a labeller, a repeater or a PC in order to send weights.

In order to carry out a new weighing and continue accumulating, remove the weight from the platform and place the new weight to accumulate on it; wait for the weight to be stable and then press the **ENT** key again.

3.3.2   Automatic accumulation

Automatic accumulations do not require the **INTRO** key to be pressed for weighing; the unit simply has to detect a stable weight value greater than the value defined as minimum weighing (*) after the last weighing has been discharged.

> **Automatic weighing mode is selected using the AUTOAC option in the Functions menu.**
>
> **(*) The minimum weight value for a weighing is determined using the WEI.MIN option in the unit's WE.CTR. programming submenu.**

3.3.3   Totalise

To complete and totalise all weighings in progress, keep the **FUN** and **ENT** keys pressed down at the same time. When doing this, the screen display switches between the total number of weighings made and the total weight accumulated, returning to weight mode by pressing any key.

For example, if 4 weighings are carried out with a total weight of 0.632 kg, the unit switches between the number of weighings
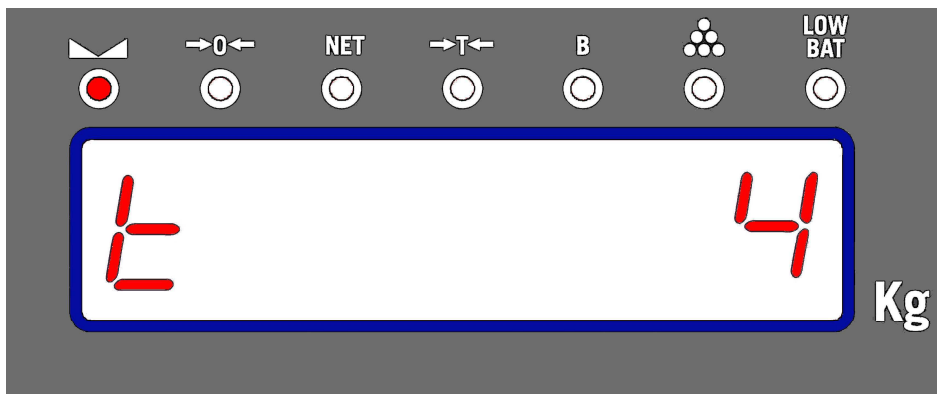
and the total accumulated weight
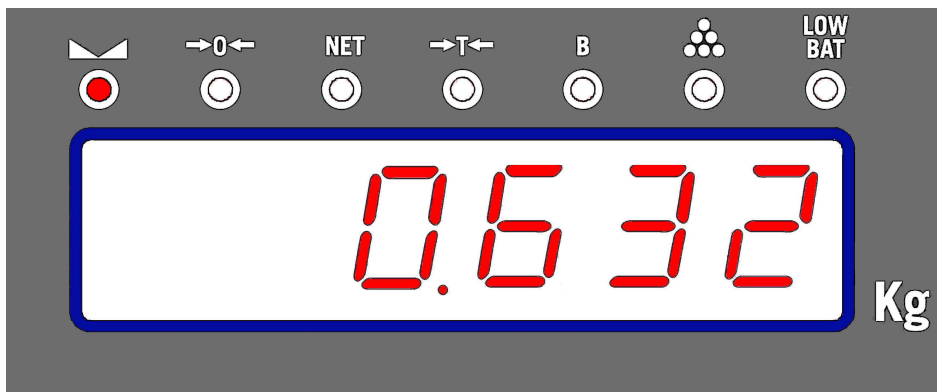
until any key is pressed and the unit returns to weight mode.

If the unit is connected to a printer, the ticket will finish, as in the following example:

```
=======================================
N.WEIGH.    CODE       TARE kg     NET kg
=======================================
       1   100350       1.538      0.216
       2   100350       0.000      0.252
       3   100350       0.000      0.083
       4   100350       0.252      0.081
=======================================
TOTAL WEIGHINGS         TOTAL WEIGHT kg
=======================================
       4                           0.632
=======================================
```

In this example, the following operations have been carried out in the ticket:
-Code 100350 has been entered.
-A container of 1.538 kg has been tared.
-A weight of 0.216 kg has been entered and accumulated.
- The weight and the container have been removed.
-A weight of 0.252 kg has been entered and accumulated.
-A weight of 0.083 kg has been entered and accumulated.
-A container of 0.252 kg has been tared.
-A weight of 0.081 kg has been entered and accumulated.
-Totalised by pressing **FUN**+**ENT**.

> The unit can carry out and memorise up to 255 weighings before totalising, and can accumulate a weight total of over 18 trillion weight units (g, kg, tn, lb) and a Grand Total of over 60,000 weighings.
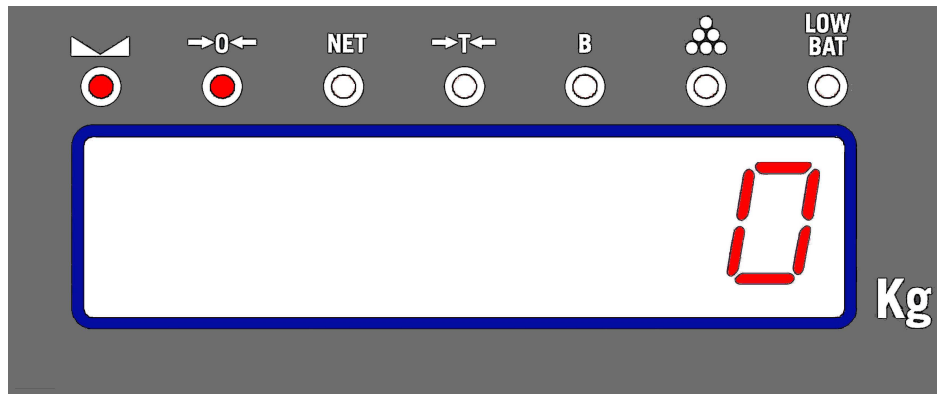
3.4 Piece counter

In piece counter mode the unit calculates and displays at all times the number of pieces resulting from dividing the measured weight and the weight of each piece.
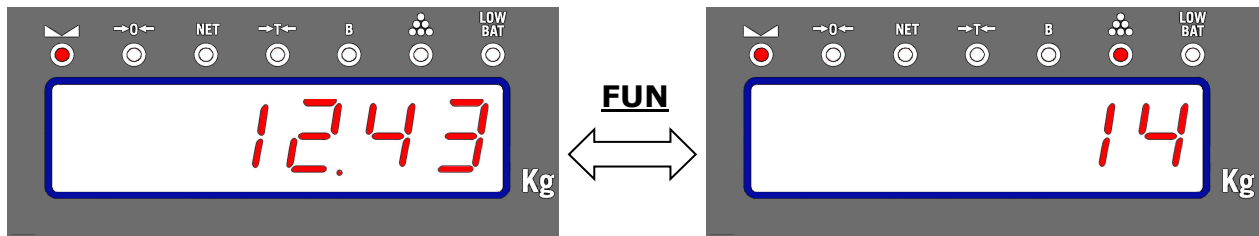
Piece counter mode is enabled by entering the **PIECES** option in the unit's functions menu.
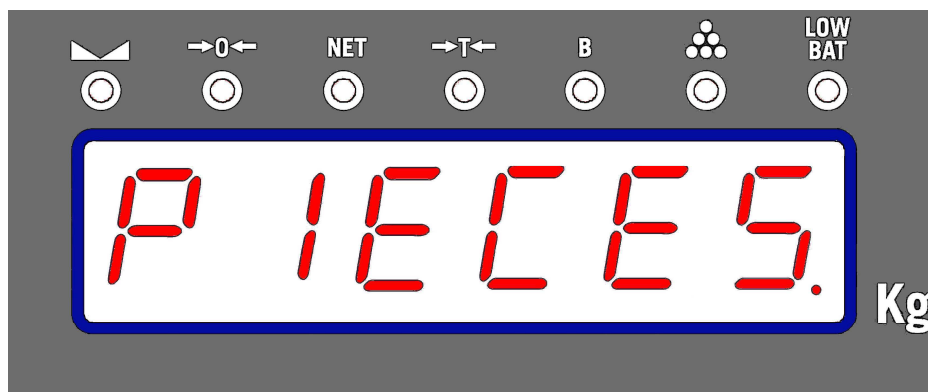
When leaving the functions menu, the unit returns to weight mode, displaying the measured weight.
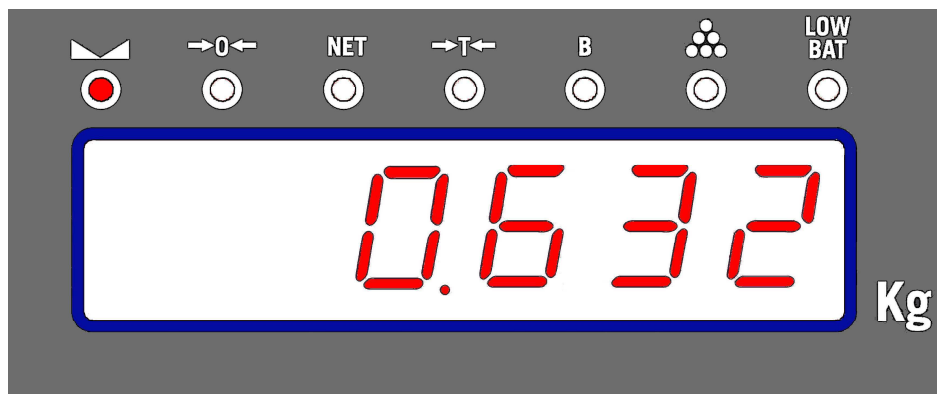

From this moment on, the unit can switch between weight and piece counter modes by pressing the **FUN** key.
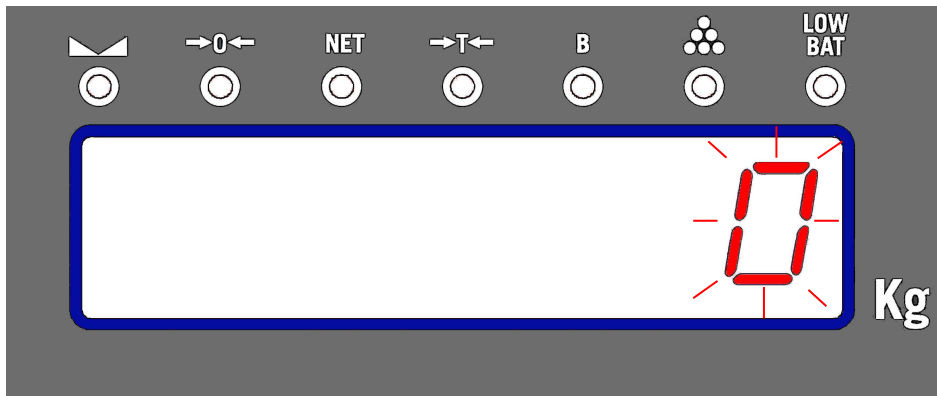

The unit enables the pilot ⚫ to indicate that the value shown on screen corresponds to a number of pieces and not to a weight value.

A sample of the pieces to count is weighed in order for the unit to determine the unit weight value of each piece;

this is done by pressing the **FUN** key until the unit enters edit mode and the display flashes 0.

At this point the number of pieces corresponding to the weighed pieces sample is entered. To do this, use the **T** key to increase the value of the flashing digit, the **B** key to change digit, the **FUN** key to cancel editing and leave without saving, and the **INTRO** key to validate and save the piece value entered. The unit will very briefly display the calculated unit weight value.
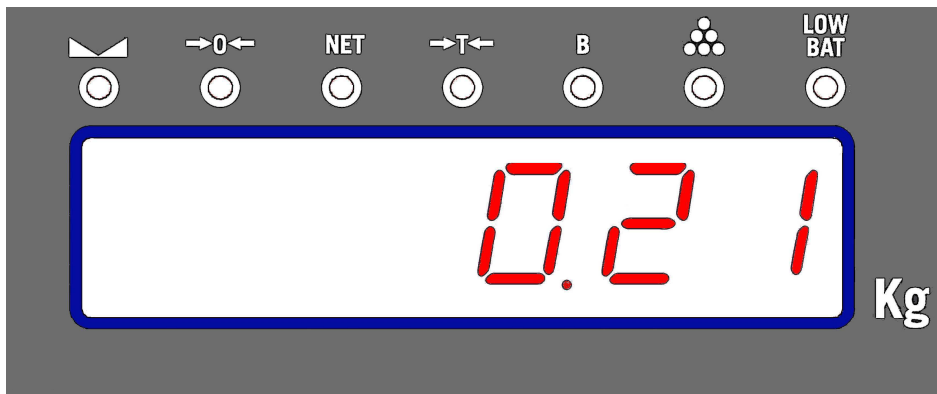
It will then return to piece counter mode, displaying as of this moment the number of pieces corresponding to the weight measured in accordance with the unit weight calculated.
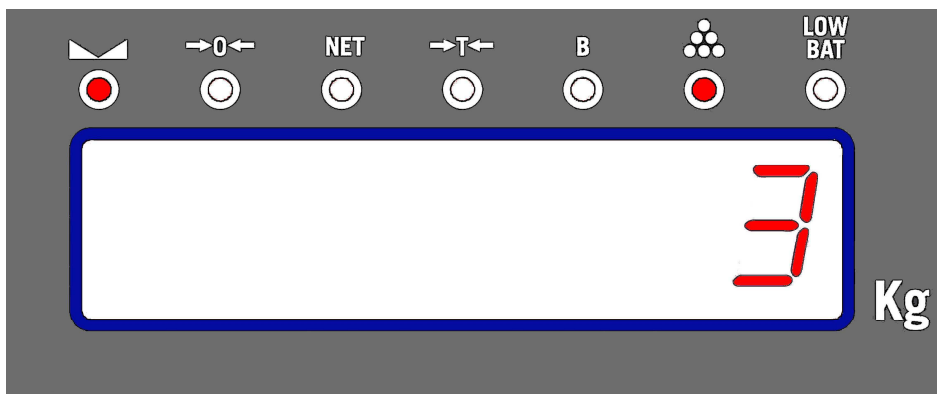
3.4.1 Accumulation and totalisation

Accumulation and totalisation in piece counter mode is carried out in the same way as in ordinary weighing: accumulate by pressing **INTRO** and totalise using **FUN**+**INT**.
The ticket resulting from the operations with pieces has the following format:

```
========================================
P.Unit:                          0.0013
========================================
N.WEIGH.    CODE       NET kg     PIECES
========================================
       1               0.251         195
       2               0.123          95
========================================
TOTAL WEIGHINGS                    PIECES
========================================
       2                              290
========================================
```

This indicates the unit weight of the pieces, the weight and number of the pieces of each weighing and the total totalised pieces.

> Switching between weight/pieces (pressing the **FUN** key), will cause the ticket to close automatically.

3.5 Units with Battery

Whenever the unit is battery-operated and this is below the correct threshold value, the corresponding LED will come on and the screen will show:
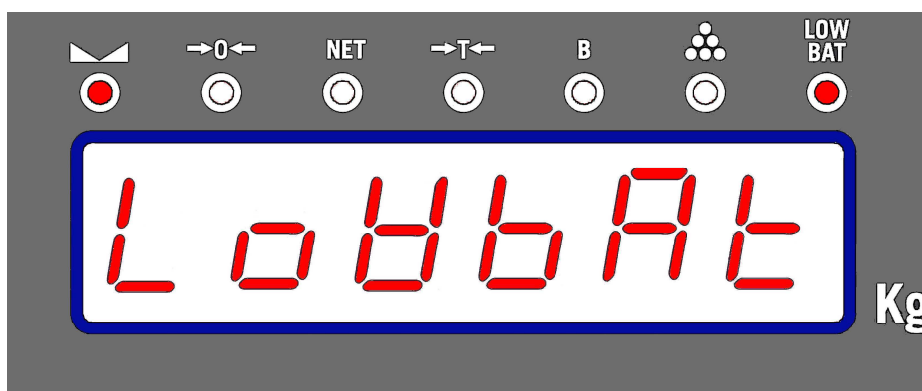
Automatically, the display illumination will be reduced to the minimum and configured to go off after 5 minutes of non-activity.

As a precaution, if low battery is detected when starting up, the display will not come on, showing first the aforementioned literals.

3.6 Equipments with DSD memory (Aliby)

DSD equipments with DSD memory record all weighings made in the equipment.
This memory cannot be erased and it can store up to 500,000 weighings thanks to its capacity. In case the memory is fully occupied, the equipment rewrites the information of the oldest weighings so that the information relative to the latest 500,000 weighings can always be recovered.
The information of the memory is organized depending on the number of Ticket to which the weighing belongs to. Every ticket is made up with the weighings made from the Ticket opening until its finishing. In the equipments with DSD memory (Aliby), the number of Ticket is auto-increased with each new finalized ticket, not being able to be modified by the user.
The **-DSD-** option from the functions menu allows consulting and printing a copy of each ticket made on the equipment. It displays the number of weighings, the total accumulated weight and the net weight of any of the ticket weighings. At the same time, it allows making a copy per printer of the ticket we are consulting.
When accessing the **-DSD-** option from the functions menu, the equipment requests the number of ticket displaying by default the last finished ticket, for example:
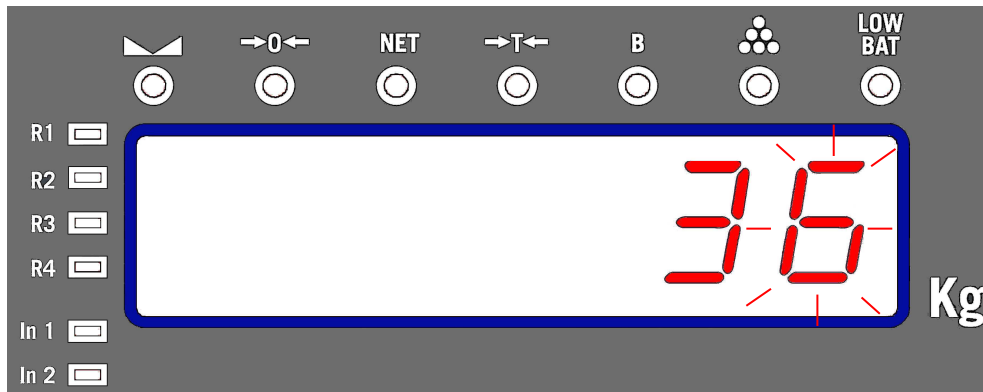
This ticket number can be modified by pressing **T** key to increase the value of the flashing digit, **B** key to change digit, **FUN** key to abort and exit the option without validating, and **INTRO** key to validate the number displayed.

Once the ticket number has been introduced, the equipment searches on the DSD memory the relative data to this ticket.

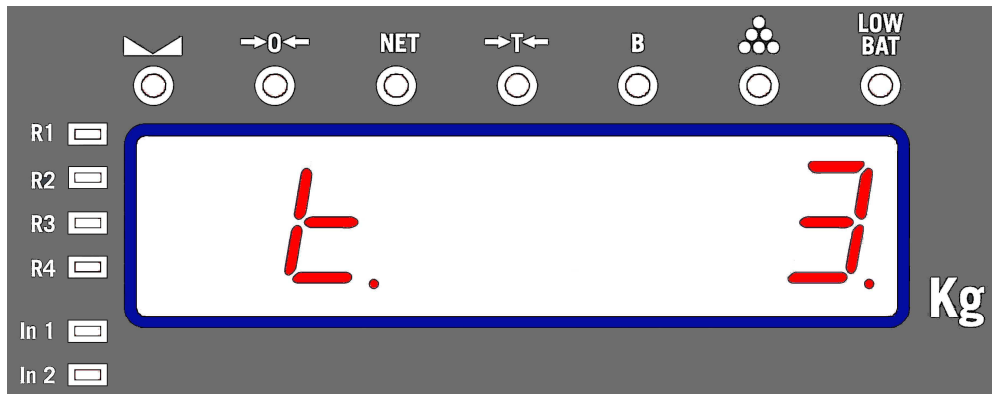In case it does not find any associated weighing, the following message is displayed:
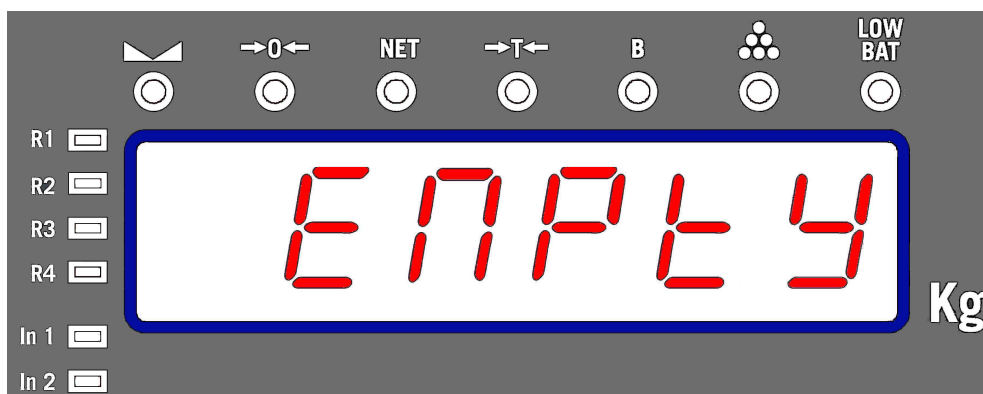
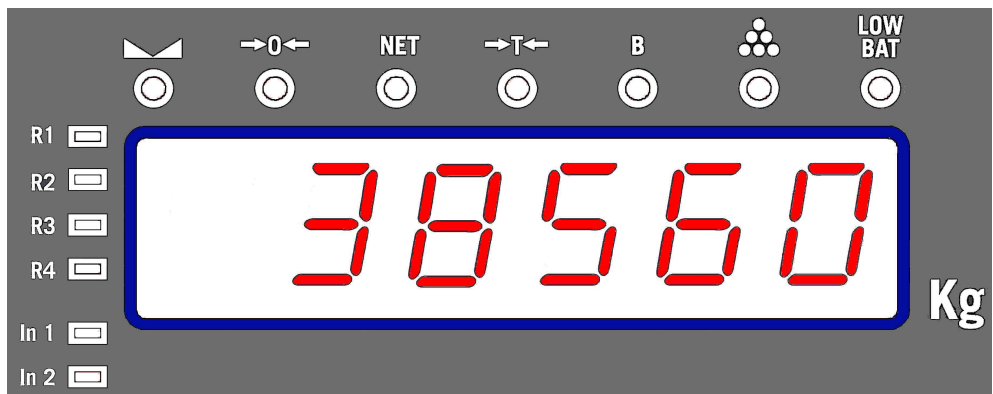To exit right after and come back to **-DSD-** submenu
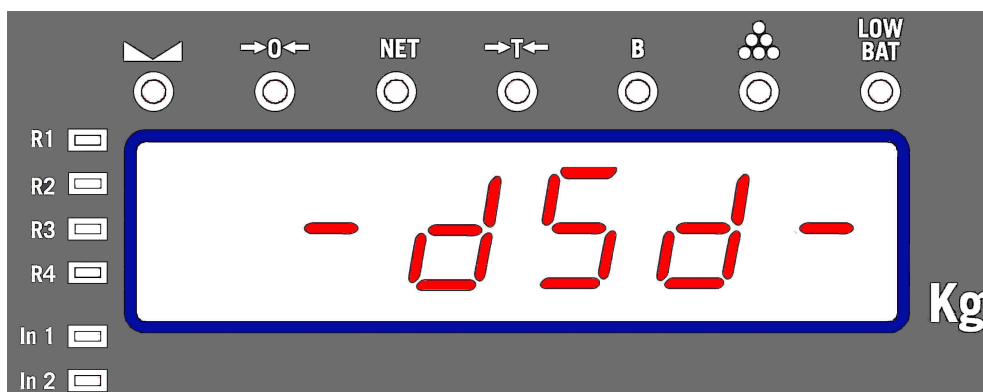
In case any associated weighing to the ticket is found, the equipment displays the "WAIT" message to indicate right after the number of weighings made on the ticket.
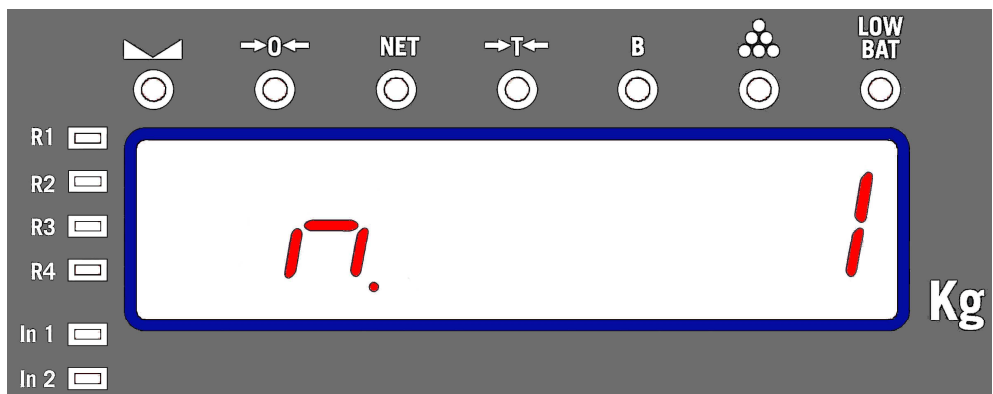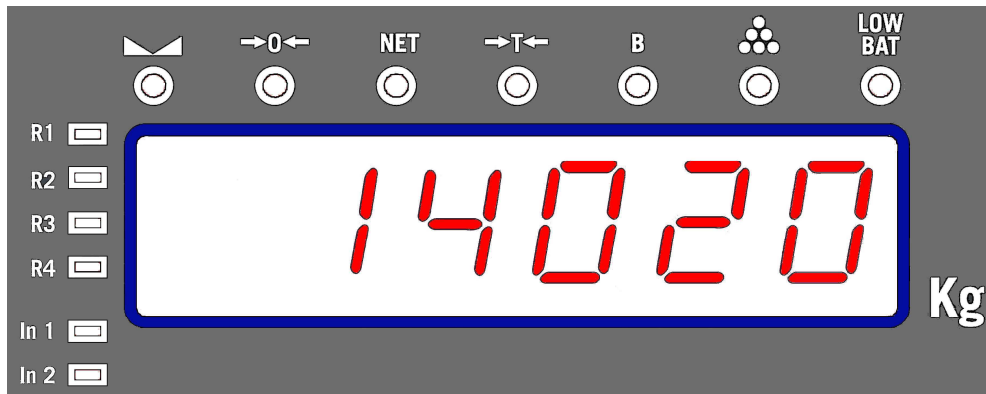
and the total accumulated weight.

By pressing **T** and **B** keys we will be able to move through the various weighings. First of all the number of weighing is displayed

and afterwards the recorded net weight:

While the total or various recorded values are displayed, by pressing **INTRO** key the printing of the ticket copy is initiated at the same time that the flashing message "Print" is displayed to indicate that a printing is being made.
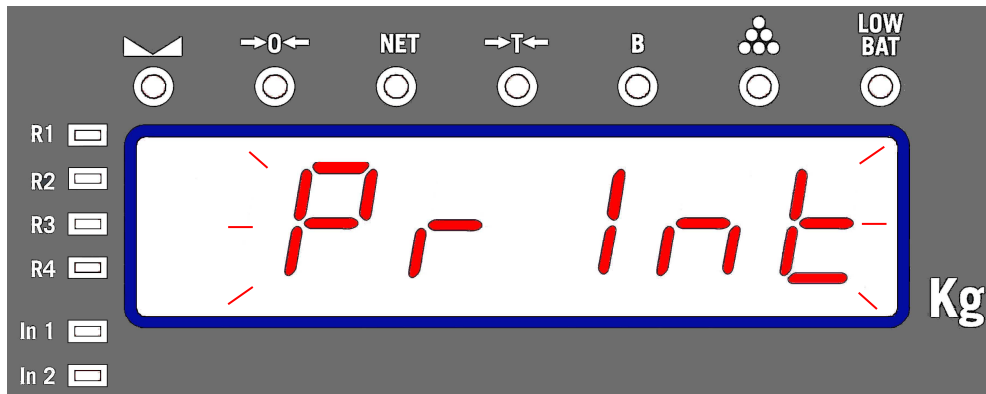
Finally, **FUN** key exits the data visualization mode and enables to edit a new Ticket number.