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# USER MANUAL
# WEIGHT INDICATOR

## DFWATEX2GDxxx, DFWATEX2GDIOxxx, DFWATEX2GDMxxx, DFWATEX2GDMIxxxx

# INDEX

# 1 TURNING ON / OFF THE INSTRUMENT

**TO TURN ON** the instrument press the **C** key until the display turns on; then release.
The display shows:
**XX.YY** which is the installed software version.
The instrument turns on all the display segments and symbols.
**MAX XXX.XXX** capacity of channel 1
(or **MAStEr** if the"MAStr" functioning mode has been selected, or **riPE** if the "rEPE" functioning mode has been selected)
**bt XXX** in which XXX is a number from 0 to 100 which indicates the battery level (if present).

The indicator has an "auto zero at start-up" function: this means that if at start-up a weight within +/- 10% of the capacity is detected, it will be zeroed. If the weight is not within this tolerance, with a non approved instrument the display shows the present weight after a few instants, while with an approved instrument "ZEro" is shown continuously on the display, until the weight does not re-enter within this tolerance. The auto zero function at start-up may be disabled in the set-up environment (only with non approved instrument); see **SEtuP >> ConFiG >> PArAM >> Auto-0 (TECH.MAN.REF.)**.

By pressing the **ZERO** key for an instant while the version is shown in the display, the indicator will show the following parameters in this order:
**MAStEr** if the "MAStr" functioning mode has been selected, or **riPE** if the "rEPE" functioning mode has been selected
**CLoCk** if date and time are detected.
**XX.YY** in which XX indicates the instrument type, YY indicates the metrological software version.
**XX.YY.ZZ** is the installed software version.
**XXXXXX** is the name of the installed software.
**bt XXX** in which XXX is a number from 0 to 100 which indicates the battery level (if present).
**-K- X.YY** in which K identifies the type of keyboard: K=1 17-key keyboard.
X.YY is the installed software version.

After this, the indicator shows the programmed capacity and the minimum division, then "hi rES" (in case of not approved instrument) or "LEGAL" (in case of approved instrument), the g gravity value, and, finally, a countdown (self-check) is executed.

**TO RESTART** the instrument, press the **C** key and hold 8 seconds: the indicator will turn off, then release the key and the indicator will automatically turn on.

**TO TURN OFF** the instrument, press and hold the **C** key until the "- oFF –" message appears on the display; then release the key.

# 2 FRONT PANEL KEYS AND INDICATORS

The front panel of the indicator is designed for a quick and simple use. It is made up of a display with 6 digits (height 25mm), and water-proof film keyboard with 17 numerical and function keys.
While weighing, various multifunction symbols indicating the functioning status will turn on (see “SYMBOLS ON THE LCD DISPLAY” section).

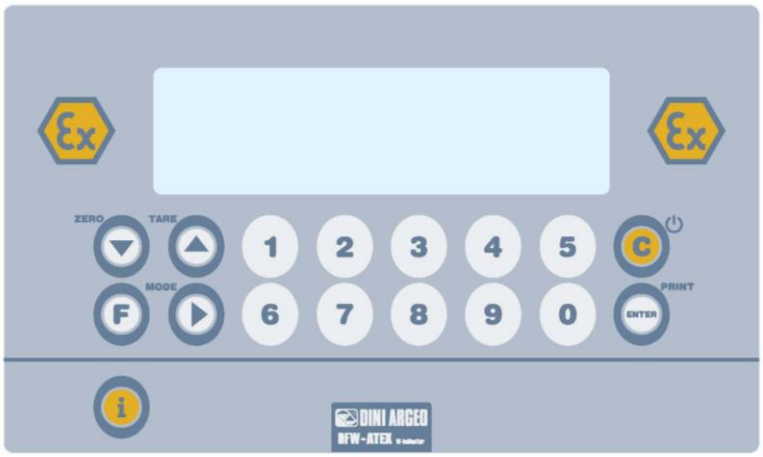



FIGURE 2

| SCALE KEY | FUNCTION |
|---|---|
|   | - Zeros the displayed gross weight, if it is within +/- 2% of the total capacity.<br>- Cancels the negative tare value.<br>- When entering numbers it decreases the digit to be modified.<br>- It allows to scroll down the menu steps, or the step parameters. |
|   | - If pressed for an instant, it carries out the semiautomatic tare.<br>- Press and hold it to insert the manual tare from the keyboard.<br>- Cancels the negative tare value.<br>- In the numeric input phase it increases the digit to be modified.<br>- It allows scrolling up the menu steps, or the step parameters. |
|   | - It carries out a specific function of the operating mode set in the set-up environment.<br>- In the numeric input phase it selects the digit to be modified, from left to right. |
|   | - It carries out a specific function of the operating mode set in the set-up environment.<br>- In the numeric input phase, it confirms the value inserted.<br>- In the SET-UP, it allows to enter a step or to confirm a parameter within a step.<br>- It transmits the data from the serial port dedicated to the printer. |

| | |
|---|---|
|  | - It turns the instrument on and off.<br>- In the numeric input phase, it quickly zeros the present value.<br>- In the SET-UP environment, it allows to exit a step without confirming the change made. |
|  | - Allows viewing the scale's metric information: capacity, division, minimum weigh for each configured range. |
|  | - Allows to select the desired function. |
|  | - During the numeric input phase they allow to enter the desired value. |

# 3 SYMBOLS ON THE LCD DISPLAY

The LCD display has symbols which show the indicator's functioning status; you will find the description for each symbol below.

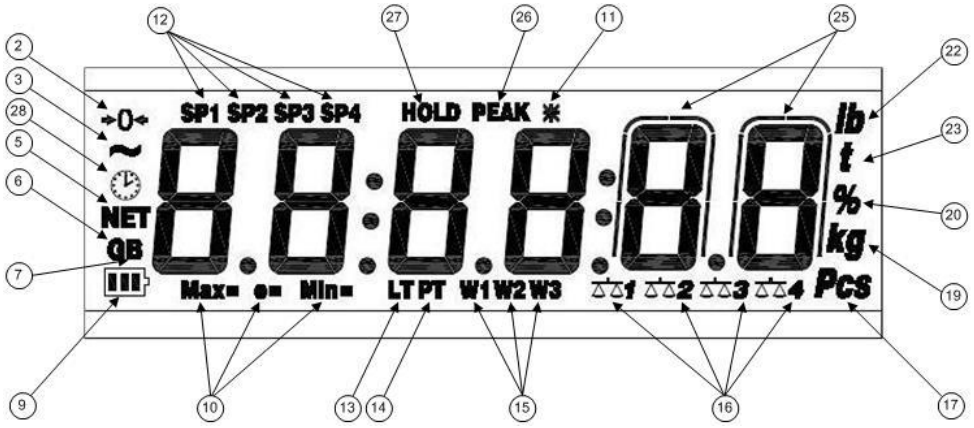
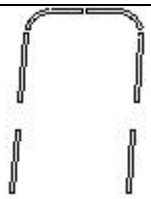



FIGURE 3 - LCD DISPLAY

| NUMBER | SYMBOL | FUNCTION |
|---|---|---|
| (2) | →0← | The weight detected on the weighing system is near zero, within the interval of –1/4 ÷ +1/4 of the division. |
| (3) | ~ | The weight is unstable. |
| (5) | NET | The displayed weight is a net weight. |
| (6) | G | The displayed value is a gross weight, if the Italian or English language is selected in the print configuration. |
| (7) | B | The displayed value is a gross weight, if the German, French or Spanish language is selected in the print configuration. |
| (9) | | Indicates the battery charge level: see the section "LOW BATTERY WARNING". |

| | | |
|---|---|---|
| **(10)** | **MAX=**<br>**MIN=**<br>**e=** | When viewing the metric information, it identifies the indicated capacity range.<br>When viewing the metric information, it identifies the indicated minimum weigh range.<br>When viewing the metric information, it identifies the indicated division range. |
| **(11)** | ***** | Indicates that a key has been pressed. |
| **(12)** | **SP1**<br>**SP2**<br>**SP3**<br>**SP4** | The relay nr. 1 (optional) has been enabled.<br>The relay nr. 2 (optional) has been enabled.<br>The relay nr. 3 (optional) has been enabled.<br>The relay nr. 4 (optional) has been enabled. |
| **(13)** | **LT** | The locked tare is enabled. |
| **(14)** | **PT** | The manual tare is active. |
| **(15)** | **W1**<br>**W2**<br>**W3** | The instrument is in the first weighing range.<br>The instrument is in the second weighing range.<br>The instrument is in the third weighing range. |
| **(16)** | 1 2 3 4 | It indicates the number of the scale being displayed, when in the SINGLE-MULTISCALE REPEATER functioning mode. In the other functioning modes scale nr. 1 is always shown. |
| **(17)** | **PCS** | The number of pieces is being displayed. |
| **(19)** | **kg** | Indicates the unit of measure in use (“kg” for kilograms, “g” for grams). |
| **(20)** | **%** | Indicates the percentage of the weight on the scale (“Sample Weight Percentile” functioning mode). |
| **(22)** | **LB** | Indicates the unit of measure in use (pounds). |
| **(23)** | **t** | Indicates the unit of measure in use (tons). |
| **(25)** |  | These are displayed around the digit with higher sensitivity, when viewing the weight x 10. |
| **(26)** | **PEAK** | Not used in this application. |
| **(27)** | **HOLD** | The HOLD function is enabled. |
| **(28)** |  | Not used in this application. |

# 4 BASIC FUNCTIONS

## 4.1 ZERO SCALE

By pressing the ZERO key, it is possible to zero a gross weight value which is within +/- 2% of the capacity; after the zeroing, the display shows 0 weight and the relative pilot lights are turned on.

## 4.2 TARE OPERATIONS

**SEMI-AUTOMATIC TARE**

By pressing the **TARE** key any weight value present on the display is tared: the display shows “tArE” for an instant and then 0 (net weight); the pilot lights turn on.

**NOTE:** The semiautomatic tare will be acquired only if the weight is of AT LEAST ONE DIVISION, STABLE (instability **~** light off) and VALID (that is, no OVERLOAD condition must occur).

**ENTERING THE MANUAL TARE FROM KEYBOARD**

Press TARE for a few seconds: the display shows "– tM –" and then *"000000".* Enter the desired value using the numeric keyboard.

Confirm with the ENTER/PRINT key; the value will be subtracted from the weight present on the plate and the relative pilot lights will turn on.

**NOTE: If the entered value is not a multiple of the scale's minimum division, it will be rounded off.**

**CANCELLING A TARE**

In order to cancel manually the tare value, different ways can be followed:

- unload the scale and press the **TARE** or **ZERO** key.
- carry out the tares in deduction, partially unloading the scale and pressing **TARE** to zero the display.
- press **C** without unloading the scale.
- enter a manual tare equal to 0.

**NOTE: it is possible to automatically cancel the tare value; see the following section.**

**SELECTION OF TARE TYPE**

- **LOCKED TARE** — When a tare value is entered (semiautomatic, manual or from storage), by unloading the scale plate, the display shows the tare value with a negative sign.
- **UNLOCKED TARE** — When a tare value is entered (semiautomatic, manual or from storage), by unloading the scale plate, the tare value automatically clears up.
- **AUTOMATIC TARE** — The instrument will automatically tare the first weight put on the scale, by unloading the scale plate, the tare value automatically clears up (see **F,ModE >> tArE** step, **TECH.MAN.REF.**).

**The net weight before unloading the scale must be greater than 3 divisions and stable.**

To set the type of tare, press in sequence the **"F" + "2"** keys. The display shows *"tA-L"* = LOCKED TARE is selected; by pressing the same keys again the display shows *"tA-u"* = UNLOCKED TARE is selected.

The indicator stores the last selection made, also after it is turned off.

## 4.3 LIMITATION OF THE TARE FUNCTIONS

- With a not approved instrument, the tare operations are unlimited; in other words, they are always active.
  The same operations may be executed with an approved instrument, if the following step is selected: **SEtuP >> d.SALE >> no**;see the TECHNICAL SET-UP **(TECH.MAN.REF.)**.
- With approved instrument, it is possible to limit the tare functions, by setting **SEtuP >> d.SALE >> yES** and **SEtuP >> d.SALE >> rEM.dSP >> no (TECH.MAN.REF.).** The tare operations will have the following specifications:

| SCALE CAPACITY | FUNCTIONING |
|---|---|
| < 100kg | The manual tare and from database are disabled. |
| ≥ 100kg | - The SEMIAUTOMATIC TARE value cannot be modified with a manual tare, or a tare from database.<br>- The manual tare (or from database) can be entered or modified only with an UNLOADED scale and tare equal to zero.<br>- It is possible to cancel the tare value only with an UNLOADED scale, by pressing the ZERO key or by entering a manual tare equal to zero. |

With an approved instrument, the **d.SALE** and **rEM.dSP** steps are read only.

## 4.4 AUTO POWER OFF FUNCTION

It is possible to set the indicator automatic turning off (from 1 to 255 minutes), or disable it. The auto power off takes place when, **with unloaded scale**, no weight has been moved or no key has been pressed during the time set. The display shows the "- oFF -" blinking message, after which the indicator turns off.
About the setting, follow the procedure below:

- Turn on the scale, press the TARE key while the firmware version is displayed (the display shows the "tyPE" menu).
- Press ZERO many times (to scroll down the parameters) or TARE (to scroll up them) until the "F.ModE" parameter appears.
- Press ENTER/PRINT to enter the menu.
- Scroll until the parameter "En.SAVE" is found, and then select it.
- Scroll until the parameter "AutoFF" is found, and then select it.
- With the ZERO or TARE keys select the possible options: "diSAb" (auto switch-off disabled), "EnAb" (auto switch-off enabled).
- Confirm with ENTER/PRINT; if "EnAb" has been selected, the number of minutes after which the indicator should turn off is required. Enter a number between 1 and 255 (using the MODE key to select the digit to be modified, and ZERO/TARE to decrease/increase it) and confirm with ENTER/PRINT.
- Press many times the C key until the display shows "SAVE?".
- Press ENTER/PRINT to confirm the changes, or another key to exit without saving.

**NOTE:** If the indicator is in the MASTER functioning mode, the auto off works only if the display shows "ECO n".

## 4.5 LOW BATTERY WARNING

The indicator is able to recognize whether it is powered from the mains or through a battery.

If the indicator has the LCD display, the level of the charge is indicated by the battery symbol.

-  : the battery is charged.
-  : the battery is partially charged.
-  : the battery is uncharged: connect the indicator to the net, in order to recharge the battery (if fitted), or replace it. Moreover, for a few seconds the "Low.bat " message appears on the display (minimum level voltage).

The indicator also identifies the recharge phase of the battery (if fitted):

**RECHARGE PHASE:**  …

**RECHARGE COMPLETE:** 

**NOTES:**

- During the recharge phase the instrument can be normally used.
- The instrument automatically turns off when the voltage goes below the minimum level.
- It's possible to view the recharge percentage of the battery by pressing the **ZERO** key at the start-up (see the section "TURNING ON / OFF THE INSTRUMENT").

## 4.6 "TILT" DEVICE

The TILT is a device which inhibits the indicator's weighing system and starts working when the instrument's inclination is greater than 2% for the pallet truck application, or 5% for application on lift trucks.
The "tiLt" message and the weight value are alternately shown on the display, and they both blink for 1 second.
The activation of the tilt alarm has a delay of about three seconds from the detection of the exceeding inclination.

## 4.7 MULTI RANGE FUNCTIONING (for legal for trade approved instruments)

The multi range functioning allows to subdivide the scale capacity in two or three ranges, each one up to 3000 divisions. In this way, the first range division in the dual range is improved, and so are the first two ranges in the triple range.
For example, with a 30 kg load cell it is possible to approve the weighing system with:

- A single range: 6 kg capacity and 2 g division (3000 div.).
- Dual range: 6 / 3 kg capacity and 2/1 g division (3000 + 3000 div.).
- Triple range: 15 / 6 / 3 kg capacity and 5/2/1 g division (3000 + 3000 + 3000 div.).

**NOTES:**
- For the approval of the weighing system in dual and triple range, the cell must have better technical features in comparison to a cell used for the approval in a single range.
  The multirange functioning is shown by the turning on of the relative warning light, that identifies the working range. By passing to the second range, the second range division is enabled; by passing to the third range, the third range division is enabled. At this point the first range division is restored **only by passing by the gross zero of the scale**.
- The selection of the range number with multirange functioning is carried out during the indicator's calibration **(TECH.MAN.REF.)**.

## 4.8 PRINTING (only with optional board)

If a printer is connected (**in a safe zone**), it is possible to print the programmed weight data, for example:
- 4 heading lines of 24 characters
- GROSS weight
- TARE weight
- NET weight
- ticket number
- a CODE 39 barcode (both with the TPR thermal printer and LP542S labeller)

Besides the generic printing described above, each single functioning mode will have some specific printouts, which are described in the operating mode.
It is also possible to send weigh data to the PC, through standard or extended string, via the printer port (ALL.Std/ALL.EXt or PrPC.Std/PrPC.EXt in "Pr.ModE" parameter).

**Printing with NON approved scales.**
In order to print with non approved scales, the following conditions must be verified:
- the weight must be stable.
- the gross weight must be >= 0.
- the printout is always active.

**NOTE:** In the totaliser modes, in order to print the totalised weight:
- the weight must be stable;
- the net weight must be >= 1 division, with normal or quick totalisation.
- the net weight must be >= 10 divisions weigth with automatic totalisation.
- the printing is reactivated depending on how the "rEACt" parameter has been set in the set-up environment: passage by zero of the NET weight, weight instability, or always (see section "REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS").

**Printouts execution with approved scales**
In order to be able to print with an approved scale, the following conditions must be verified:
- the weight must be stable.
- the net weight must be >= the maximum capacity (20 divisions).
- the printing is reactivated depending on how the "rEACt" parameter has been set in the set-up environment; passage by zero of the NET weight, weight instability, or always (see section "REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS").

**Notes:**
- The printing is confirmed by the indication on the display of the "Print" message or the "totAL" one, in case of totalisation.
- If the printout is not reenabled the display shows the "no.0.unS" message.
- If the weight is unstable, the display shows the "unStAb" message.
- If the gross or net weight is less than the requested minimum one, by pressing the ENTER/PRINT key, the display shows the "LoW" error message.
- If the indicator is in underload or overload status, by pressing the ENTER/PRINT key the display shows the "un.oVEr" error message.

To configure the printouts, see the section "PROGRAMMING THE PRINTOUTS" in the technical manual **(TECH.MAN.REF.)**.

## 4.9 REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS

While using the indicator, the "**no.0.unS**" error may be shown on the display. This means that the printing (or the function to carry out) must be reenabled, in order to avoid undesired executions.
It is possible to set the reenabling in different ways: "passage by zero of the net weight", "weigh instability" or "always". Follow the procedure below:

- Turn on the scale, press the TARE key while the firmware version is displayed (the display shows the "tyPE" menu).
- Scroll the parameters until the "F.ModE" menu is shown on the display.
- Press ENTER/PRINT to enter in the menu.
- Scroll until the "rEACt" parameter appears, and then select it.
- With the ZERO or TARE keys select the possible options: "ZEro" (passage by zero of the net weight), "inSt" (instability), "ALWAyS".
- Confirm with ENTER/PRINT.
- Press the C key many times until the message "SAVE?" is shown on the display.
- Press ENTER/PRINT to confirm the modifications, or another key to exit without saving.

## 4.10 DISPLAY OF METRIC DATA (inFO)

The indicator is fitted with a function named "INFO", thanks to which it is possible to see the metric data of configuration:

**To view the metric data:**
Press the **"i"** key, or the **"MODE"** and **"C"** keys in sequence:

- The capacity value of the first range will appear.
- Press the ZERO key to scroll the following data, in this order:
  Capacity 1° range ⇨ Minimum weigh 1° range ⇨ Division 1° range ⇨
  Capacity 2° range ⇨ Minimum weigh 2° range ⇨ Division 2° range ⇨
  Capacity 3° range ⇨ Minimum weigh 3° range ⇨ Division 3° range ⇨
  Capacity 1° range ⇨……
- Press the TARE key to scroll up the metric data.
- Press the ENTER/PRINT or C key to return to weighing.

**NOTES:**

- The minimum weigh corresponds to 20 net weight divisions.
- The data of the second and third range appear only if actually configured.

## 4.11 STORED TARE MEMORY VALUES

It is possible to store up to **30 tare memory values**, identified by the correspondent numbers (from 1 to 30), which can recalled when needed.
To insert or modify a tare value:

- Press the keys "**F**"**+** "**9**" in sequence - the display indicates "*t nn*" in which *nn* is the storage number to be inserted. For example, by pressing "**01**" and then **ENTER/PRINT**, the display shows *"t00000"* or any value that already exists in the tare memory position 0.
- Insert the tare value with the numeric keyboard (with the **C** key quickly zeros the entered value) and press **ENTER/PRINT**.
- Repeat the sequence for the following memory positions.

**The value must be entered as a multiple of the scale's minimum division.**

**RECALLING STORED TARE VALUES**
To recall a stored value:

- Press the keys "**F**" **+** "**1**" in sequence. The display will indicate *"t nn"* in which *nn* is the storage number to be entered.
- Press the keys corresponding to the desired position stored (01-30) and then ENTER/PRINT; the related tare will be enabled.

## 4.12 ENTERING THE IDENTIFICATION CODE

It is possible to insert 2 numerical codes of up to 10 digits in length (maximum) to use as a reference during printing:

- Press the "**F**"+ "**3**" keys in sequence. The display will indicate "Id n" in which n identifies the desired code number to be entered.
- Press 1 or 2: the display will show *00000* or the last entered value.
- Enter the code through the numeric keyboard and confirm with ENTER/PRINT, or press C to exit without saving the modifications. While entering, just the last 6 digits typed will be displayed; in any case it is possible to scroll all the digits using the MODE key.

After its entry, the code will automatically be printed with its abbreviation (ID1 or ID2) in each printing that will be made.
The non significant zeros are not printed.
It is also possible to set the automatic cancellation of the code after the printout (see the following paragraph).
IN ANY CASE, **the stored codes are cancelled when the instrument is turned off.**

**NOTES:**
- The values between 0'000'000'001 and 9'999'999'999 are valid; by entering 0'000'000'000, the code is cancelled.
- In the TOTALIZER functioning mode, the codes will be printed only in the printing of the total.

**LOCKED / UNLOCKED CODE SELECTION**
Normally the code is LOCKED, that is, once it is set it remains stored (and therefore printed) until it is cancelled or until the instrument is turned off. In any case it is possible to change this parameter, in order to cancel the code as soon as it is printed (UNLOCKED CODE).

- Press the keys "**F**" + "**4**" in sequence; the display indicates "Mid n".
- Press "1"; the display indicates "id1 u", which means CODE 1 UNLOCKED.
- Press the same keys again: the display indicates "id1 L", which means CODE 1 LOCKED.
- Repeat the same operations for CODE 2.

## 4.13 REPETITION OF THE LAST PRINTOUT MADE

Press in sequence the **F** and **PRINT** keys: the last printout made by the indicator will be repeated.

**NOTE:**
- Turning off the instrument causes the loss of the information related to the last printout; therefore this function is disabled until the first printout is made.

## 4.14 KEYBOARD LOCK

It is possible to disable the keyboard functions in order to avoid accidental pressing of the keys.
The keyboard can be disabled/enabled by setting the corresponding parameter in the **F.ModE >> LCk.kEy** step of the setup environment **(TECH.MAN.REF.)**; if the "on" parameter is selected in the this step, after 15 seconds of keyboard inactivity in the weighing phase, the keyboard is locked (the "LoC.kEy" message is displayed).
In this case it is only possible to turn off the instrument by pressing the C key for about 10 seconds. When this operation is carried out, the instrument automatically turns on, and the keyboard lock function is disabled.
By pressing the ZERO and ENTER/PRINT keys in succession, the keyboard is unlocked (the "unL.kEy" message is displayed). If instead a different key is pressed, the message "PrESS ZEro to unLoCk" is displayed; when the ZERO key is pressed, the message "noW PrESS Print to unLoCk" is displayed.

**NOTE:** The keyboard may be disabled also by closing an input, if programmed, of the optional expansion board: refer to the "inPutS" parameter of the set-up environment **(TECH.MAN.REF.)**. In this case, however, by pressing a key the message "LoCkin" appears on the display.

# 5 SELECTABLE OPERATING MODES

In addition to the STANDARD weighing mode - with TARE deduction and transmission of data, the indicator can carry out one of the following functions:
UNIT OF MEASURE/POUNDS CONVERSION, NET/GROSS SWITCH, SET POINT ON THE GROSS WEIGHT, SET POINT ON THE NET WEIGHT, INPUT/OUTPUT, SINGLE - MULTISCALE REPEATER, ALIBI MEMORY, +/- TOLERANCE CHECK, STANDARD WEIGHT PERCENTAGE, SINGLE SCALE REPEATER, DISPLAY WITH SENSITIVITY X 10, FREEZING OF THE WEIGHT ON THE DISPLAY, PEAK (maximum read value) DETECTION, HORIZONTAL TOTALIZER, VERTICAL TOTALIZER, PIECE COUNTING.
Each functioning mode includes the turning on of various function pilot lights, described in detail in the paragraph "SYMBOLS ON THE LCD DISPLAY".

**To set the operating mode, carry out the following procedures:**
- Turn on the scale, press the TARE key while the firmware version is displayed (the display shows the "tyPE" menu).
- Scroll the parameters with the ZERO or TARE key until the "F.ModE" menu is shown on the display.
- Press ENTER/PRINT to enter the menu (the display shows the "FunCt" menu).
- Press ENTER/PRINT to enter the parameter.
- With the ZERO or TARE keys select the desired functioning mode:

| | |
|---|---|
| ***MAStr*** | Single-multiscale repeater |
| ***rEPE*** | Single scale repeater |

**NOTE:** The above parameters are only displayed if the firmware (the instrument) is MASTER type.

| | |
|---|---|
| ***Std*** | kg / lb conversion |
| ***ntGS*** | Net weight / gross weight conversion |
| ***StPG*** | Setpoint on gross weight |
| ***StPn*** | Setpoint on net weight |
| ***inout*** | Input / output weighing |
| ***ALibi*** | Alibi memory |
| **ChECk** | +/- Tolerance Check |
| **PErC** | Sample weight percentage |
| ***ViSS*** | Sensitivity times ten |
| ***hLd*** | Hold |
| ***tot o*** | Horizontal totalizer |
| ***tot S*** | Vertical totalizer |
| ***Coun*** | Counting |

**NOTE:** the above parameters are only displayed if the firmware (the instrument) is STANDARD type.

- Confirm with ENTER/PRINT; if the mode inout, MAStr, ChECk, PErC, tot o, tot S or Coun has been selected, it will be asked to choose one or more operating parameters (refer to the relative functioning mode section for the related description).
- The instrument automatically goes to the following step.
- Press many times the C key until the display shows the message "SAVE?".
- Press ENTER/PRINT to confirm the changes made, or another key to exit without saving.

**NOTE:** If a printer is configured, once the functioning mode is selected the relative printout is automatically enabled, depending on the type of printer selected in the **SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ModE (TECH.MAN.REF.)**.

## 5.1 UNIT OF MEASURE/POUNDS CONVERSION (Std)

By pressing the MODE key the weight value is converted from kilograms to pounds and vice versa.
**NOTES:**
- The conversion takes place for any unit of measure set during the calibration.
- With APPROVED instrument the weight in pounds is displayed for 5 seconds, after which the display goes back to the scale unit of measure. During the visualisation in pounds it is not possible to print the weight (when pressing ENTER/PRINT the message "ConV" is shown, and an acoustic signal is emitted).

## 5.2 NET/GROSS SWITCH (ntGS)

If a tare is set, by pressing the MODE key for about 5 seconds the gross weight is displayed.
**NOTE:** While the gross weight is shown it is not possible to print.

## 5.3 SETPOINT ON GROSS WEIGHT (StPG)

By selecting this functioning mode, in the normal scale status, the function of the TTL digital outputs on the GROSS weight is enabled. Through the optional board, it is possible to use up to 4 outputs.
In the **outPut** menu of the SET-UP environment **(TECH.MAN.REF.)**, the functioning mode of each output used is set; none, with hysteresis (separated enabling and disabling set points), or without hysteresis (single set point).
Furthermore, it is possible to set the status of the outputs (normally open or normally closed) and the type of check (direct or upon weight stability).

**MODE WITHOUT HYSTERESIS**

For each output, just one setpoint is entered, which corresponds both to the enabling threshold and the disabling one.

To enter the set point value, follow the procedure below (example referred to output 1):

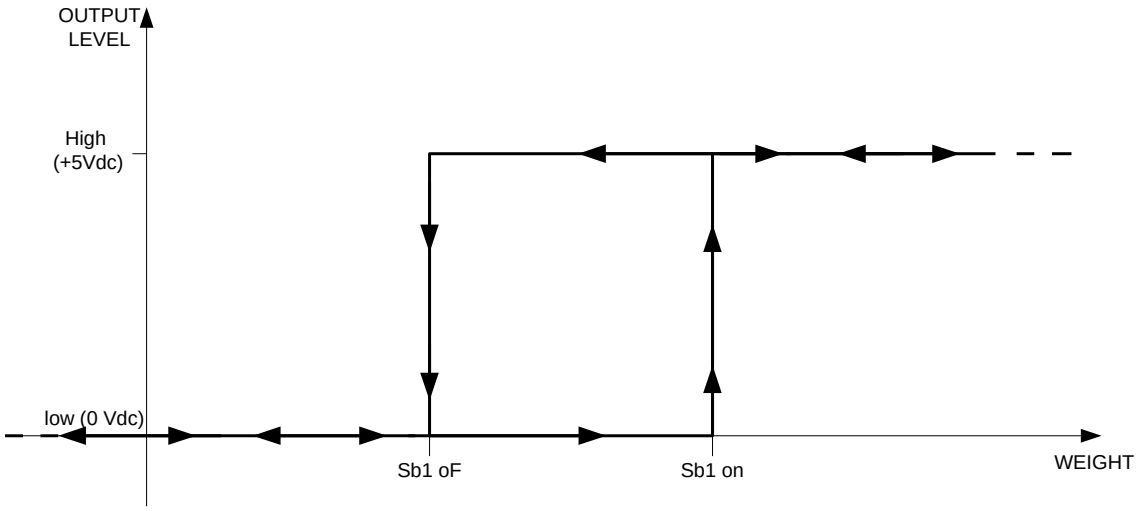
Press ENTER for three seconds → **S1.on** → press ENTER → 00000 →

enter the set point value → press ENTER to save the value.

Do the same for all the outputs which function without hysteresis.
Once the programming is finished, press the C key to return to weighing.

**MODE WITH HYSTERESIS**

Two set point values are entered for each output, an enabling one and a disabling one:
- disabling set point: when the gross weight goes below this value, the output is disabled.
- enabling set point: when the gross weight reaches this value and goes above it, the output is enabled.




In order to enter the set point values, follow the procedure below (example referred to output 1):

Press ENTER for three seconds → **S1.oF** → press ENTER → 00000 → enter

the disabling set point value → press ENTER to save the value → **S1.on** →

press ENTER → 00000 → enter the enabling set point value → press ENTER to save the value.

Do the same for all the outputs which function with hysteresis.
Once the programming is finished, press the C key to return to weighing

**NOTES:**
- The disabling set point must be ≤ than the enabling set point.
- If in the disabling set point a value greater than the enabling one is entered and confirmed, the instrument will automatically set the same value in the enabling step.
- If in the enabling set point a value lower than the enabling one is entered, the instrument does not allow to confirm it.
- If the set point entered has a number of divisions which is not coherent with the minimum division set, it will be rounded up to the multiple of the minimum division immediately greater.
- The 0 value is valid both in the enabling and the disabling set points, and just set points equal or greater than zero are accepted.
- The check of the weight remains active on the present value even during the modification of the SET POINT, until the new value is confirmed.
- At the start-up, the relays are managed from the moment in which the weight is displayed. They assume the configuration set in the set-up environment, and are not managed inside the technical set-up.
- The tare operations are active.

## 5.4 SET POINT ON NET WEIGHT (StPn)

By selecting this functioning mode, in the normal scale status, the function of the relays on the NET weight is enabled. The entry of the SET POINTS and the functioning notes are the same as the gross weight mode.

## 5.5 INPUT/OUTPUT (inout)

Simple display functioning mode with in / out weighing function: the indicator acquires two weight values through the confirmation of the operator and calculates the difference, automatically printing the data (if the presence of a printer has been configured).
Once the in/out mode has been selected, the message “tyPE” is shown and it is asked to select with ENTER/PRINT the printing mode of the acquired data:

- **“G.t.” gross/tare:**
  GROSS Greater weight with unit of measure
  TARE Lesser weight with unit of measure.
  NET Difference between GROSS and TARE, with unit of measure

- **“1st.2nd” first weigh/second weigh:**
  1st WEIGHING First weight with unit of measure.
  2nd WEIGHING Second weight with unit of measure.
  NET Difference without sign between 1st WEIGHING and 2nd WEIGHING, with unit of measure.

- **“in.out” input/output:**
  INPUT Input weight with unit of measure.
  OUTPUT Output weight with unit of measure.
  NET Zero weight with unit of measure >> if INPUT = OUTPUT
  INPUT NET >> if INPUT > OUTPUT
  Difference without sign between INPUT and OUTPUT, with unit of measure.
  OUTPUT NET >> if INPUT < OUTPUT
  Difference without sign between INPUT and OUTPUT, with unit of measure.

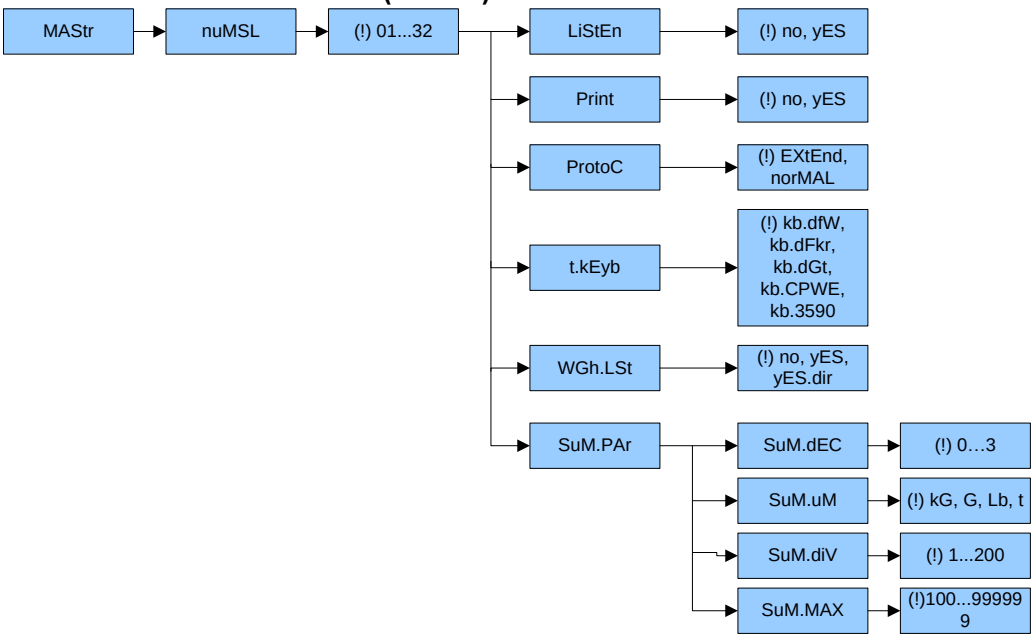
**PROCEDURE:**
- With the **MODE** key the first weight is acquired. On the display is shown “ - - 1 - - -“;
- By pressing again the MODE key, the second weight is acquired. On the display is shown “- - 2 - - -“;
- **NOTE:** The acquisition of the second weight is carried out only if the setting of the **<< rEACt >>** parameter in the set-up environment has been respected (passage by zero of the weight, instability, or always); see the section “REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS”.
- When the second weight is acquired, the data printout is commanded.

It is possible to interrupt the weighing cycle by pressing the C key after the acquisition of the first weight: On the display the message “CLEAr ” is shown. Press ENTER/PRINT to confirm the cancellation of the first acquired weight, or another key to annul the confirmation.

**NOTES:**
The first weight is acquired if:
- With a NON APPROVED scale, the weight is STABLE and GREATER than 0.
- With an APPROVED scale, the weight is STABLE and GREATER than 20 divisions.

The second weight is acquired if:
- With a NON APPROVED scale, the weight is STABLE and GREATER than 0.
- With an APPROVED scale, the weight is STABLE and GREATER than 20 divisions.
  Moreover, it is necessary to respect the **<< rEACt >>** parameter configuration in the set-up environment (passage by zero of the weight, instability, or always). See the section “REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS”.
- The tare operations are DISABLED.

## 5.6 SINGLE - MULTISCALE REPEATER (MAStr)




The system is made up of one or more indicators (up to 32, called **SLAVES**), connected to one or more weighing system, which communicate with another indicator (called **MASTER**) that acts as weight repeater. On it, it is possible to visualise (or print if the printer is provided) the weight of each single scale or the sum of the weight detected by the single scales.
The SLAVES can be connected to up to 4 platforms with dependent or independent channels.
The SLAVES also repeat some of the keys pressed on the master, such as TARE or ZERO.
**NOTE: It is possible to achieve a network with a MASTER, which remotely performs the functions of the scales connected, and one or more LISTEN ONLY MASTER, having the sole function of repeating the weight.**

### 5.6.1 LISTEN ONLY MASTER

It is also possible to add other masters (see next paragraph) which must be set as weigh repeaters. The keys pressed on these masters are not repeated on the slaves.
When the listen only master is turned on, it displays the weight of the slave, or automatically selects the sum of the weights if there are more slaves connected to the master.
If there are more slaves, the listen only master can display:
- the sum of weights, if it is selected on the listen only master, and it is displayed also on the master; the “SuM” message is displayed every 10 seconds.
- the weight of the selected slave, if the master displays the weight of the same slave or the sum of weights; the “SCA n” message is displayed (n is the number of the selected slave). If it is not possible to set the communication, the listen only master displays the central segments alternated to the messages “SCA n” or “SuM”.

**NOTE: this type of master works only if there is at least one master in no listen mode.**

### 5.6.2 MASTER CONFIGURATION

In the MASTER, by selecting with ENTER/PRINT this operating mode, it is asked to enter the number of the SLAVES to be used; for an instant "nuMSL" is displayed. Then, a number must be entered (between 01 and 32).

- it is asked to select (or not) the listen only mode.
- it is asked to enable (or not) the print on the master (a printer must be connected).
  **NOTE: Only one master can have the print option set to YES.**
- (if the listen mode is disabled) it is asked to enter the protocol type.
- (if the listen mode is disabled) it is asked to enter the SLAVE keyboard type: "kb.dFW" (for DFW type instruments), "kb.dFkr" (for DFWKR type instruments), "kb.dGt" (for DGT type instruments), "kb.CPWE" (for CPWE/3590E type instruments), "kb.3590" (for 3590 type instruments).
- if two or more slaves are set, the menu "SuM.PAr" for the setting of the sum parameters is displayed; press ENTER/PRINT to access to the them.
  - - "SuM.dEC": number of decimals (between 0 and 3);
  - - "SuM.uM": unit of measure (kg, g, Lb or t can be selected).
  - - "SuM.diV": minimum division (the possible values are 1, 2, 5, 10, 20, 50, 100, 200);
  - - "SuM.MAX": maximum value displayed (between 100 and 999999 without decimals). If the sum of the weights has a value of more of 9 sum divisions ("SuM.diV") greater than the value set in this step, the message "oVEr" is alternated to the display of "- - - -" and an acoustic signal is emitted. The 0 value disables this function.

In the SLAVES, instead, it is necessary to enter a code (between 01 and 32, to identify each single SLAVE) in the step **SEtuP** >> **SEriAL** >> **CoM.PC** >> **PCModE** >> **485 (see set-up environment, TECH.MAN.REF.)**.

### 5.6.3 FUNCTIONING

When turned on, the MASTER prepares for the connection to the SLAVES present ("ECo n" message appears, in which n is the SLAVE number which is trying to be detected): if the master has detected more than one SLAVE, it shows the "SuM" message and then the sum of the weights of all the detected SLAVES. If only one SLAVE is detected, the MASTER positions itself on that particular scale.

- By pressing the MODE key:
  - if just one slave is configured, it is repeated also on the slave which is active in that moment;
  - if various slaves are configured, switching from SLAVE to SLAVE occurs, ordered by 485 addresses. The display shows "SCA n" (in which n is the SLAVE number), and then the weight transmitted by the selected SLAVE.

  If the ZERO, TARE and ENTER/PRINT keys are pressed on the MASTER, they are repeated also on the SLAVE active in that moment.

  **It is possible to view the sum of weights present on all the detected scales,** (also if lower than the number set in the **F.ModE** >> **FunCt** >> **MAStr** >> **nuMSL** step, as long as greater than 1), by pressing the MODE key for a few seconds: the display shows "SuM", and then the sum of the net weight present on the detected scales.

  **In the sum visualisation:**
  - The reference unit of measure is the one set in the "SuM.uM" step.
  - If the sum of the weights is greater than 999999, the segments in the upper part of the display are turned on.
  - If the sum of the weights is less than -99999, the segments in the lower part of the display are turned on.
  - If the sum of weights is not valid (because one or more slave is in underload or overload), the segments in the central part of the display are turned on, and an acoustic signal is emitted.
  - It is possible to carry out the manual or the semiautomatic tare of the sum (in both cases the PT symbol on the LCD display is activated).
- Furthermore, by pressing the numeric keys:
  - if just one slave is configured, they are repeated also on the slave active in that moment;
  - if from 2 to 9 slaves are configured, it is possible to select the desired SLAVE directly through the related numeric key of the keyboard (**I.E.:** MASTER → press the 1 key→ selection of SLAVE 1).
  - if 10 or more slaves are configured, it is possible to select the desired SLAVE by entering the corresponding number through the numeric keys and then pressing the ENTER/PRINT key (**I.E.:** MASTER → press the 1 key → press the 0 key → press ENTER/PRINT → selection of SLAVE 10).
  - if the value "kb.dFkr" has been set (keyboard for DFWKR instruments) in the step **FunCt** >> **MAStr** >> **nuMSL** >> **t.kEyb**, by pressing the numeric keys it is possible to:
    - - select the corresponding scale, if the sum of weights is displayed;
    - - select the corresponding platform, if the weight of a slave is displayed.

  **NOTE:** the functionality of the MODE key is similar to the previous way.

| Pressed key | 3590 key | CPWE key | DGT key |
|---|---|---|---|
| ZERO | ZERO | F6 | ZERO |
| TARE | TARE | TARE | TARE |
| MODE | RIGHT ARROW | F9 | MODE |
| ENTER | ENTER | ENTER | ENTER |
| C | C | C | C |
| 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 |
| 0 | 0 | 0 | 0 |
| POINT | SHIFT | POINT | NA |
| FN | F1 | F1 | F |

NA: key not available

**WARNING:**

- To carry out the weight repeater function it is sufficient to turn on just one SLAVE instrument in the system. When turned on, the MASTER places itself automatically on the first turned on SLAVE (lowest 485 address). If all the instruments are off, or if the radio signal does not reach the MASTER, on its display the "ECo n" message appears (in which n is the address of the SLAVE with which the master is trying to communicate).
- If there are various slaves, it is not possible to transmit the functionality of the **MODE** key to the active slave.
- To carry out the sum function, it is necessary to have a connection with at least two SLAVES.
- In the sum mode, it is not possible to transmit the functionality of the **ZERO**, **TARE**, **ENTER/PRINT** and **C** keys to the SLAVES.
- If the connection with the repeater SLAVE is lost, the MASTER will try to reconnect it; if, after about a second, this does not happen, the MASTER connects with the following SLAVE.
- If the connection with a SLAVE is lost in the sum mode, the MASTER tries to reconnect it: if this happens, it remains in the sum mode, otherwise it passes to the repeater mode of the following SLAVE.

### 5.6.4 EXECUTION OF THE PRINTOUTS

If there is a printer on the master:

- the printer must be selected both in the SLAVE and in the MASTER (**SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ModE** parameter, **TECH.MAN.REF.**)
- it is possible to carry out the printouts and the heading configured in the active slave on the printer, by pressing on the MASTER or on the SLAVE the dedicated key (depending on the selected function on the SLAVE). In order to configure this format, refer to section "PROGRAMMING THE PRINTOUTS", **TECH.MAN.REF.**
- by pressing the ENTER/PRINT key when the sum is displayed, it is possible to execute a printout with the weights of all the detected scales and their sum. In order to configure this format, refer to section "PROGRAMMING THE PRINTOUTS", **TECH.MAN.REF.**. The heading is the one programmed in the MASTER.

If there is a printer on a SLAVE:

- the printer must be selected in the SLAVE (**SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ModE** parameter, **TECH.MAN.REF.**) but not in the MASTER
- it is possible to execute the printout configured in the SLAVE.

**Examples of printout:**
2 slaves connected to the master (TPR printer)

| Slave 1 | Slave 2 | Master |
|---|---|---|
| SCALE 1<br>MASTER LINE 1<br>MASTER LINE 2<br>MASTER LINE 3<br>MASTER LINE 4<br><br>SLAVE 1 LINE 1<br>SLAVE 1 LINE 2<br>SLAVE 1 LINE 3<br>SLAVE 1 LINE 4<br>GROSS 5.000 kg<br>TARE 0.000 kg<br>NET 5.000 kg | SCALE 2<br>MASTER LINE 1<br>MASTER LINE 2<br>MASTER LINE 3<br>MASTER LINE 4<br><br>SLAVE 2 LINE 1<br>SLAVE 2 LINE 2<br>SLAVE 2 LINE 3<br>SLAVE 2 LINE 4<br>GROSS 1.743 kg<br>TARE 0.000 kg<br>NET 1.743 kg | MASTER LINE 1<br>MASTER LINE 2<br>MASTER LINE 3<br>MASTER LINE 4<br>SCALE 1 5.000 kg<br>SCALE 2 1.743 kg<br>PT 1.000 kg<br>SUM 5.743 kg |

**NOTES:**
If the printer has been selected in the MASTER but not in the SLAVE, it is not possible to print.
If more than one SLAVE is present in the system, the number of the SLAVE from which the weight is coming will be added on each printout on the MASTER.
If enabled, the master inserts the header.
The master (if enabled) adds at the end of the format the ticket number, date and time.
On the MASTER it is also possible to display and print the sum of the weights of a number of SLAVES lower than the value programmed in the **FunCt** >> **MAStr** >> **nuMSL** step, by turning off the SLAVES that are not used.

#### 5.6.5 TURNING OFF THE MASTER AND THE SLAVES

If the MASTER visualises the sum of the weights:
- by pressing and holding the **C** key of the MASTER, it is possible to turn off only the related indicator.
- by pressing and holding the **C** key of one of the SLAVES, it is possible to turn off only that indicator. After a few instants, the MASTER displays the “ECo n” message, in which n is the number of the SLAVE that has been turned off, and then the weight transmitted by the next detected SLAVE.

If the MASTER displays the weight transmitted by a SLAVE:
- by pressing briefly the **C** key on the MASTER, this is repeated on the active SLAVE.
- by pressing the **C** key on the MASTER until the “-oFF-“ message is displayed, it is possible to turn off the active SLAVE.The “-0FF-“ message is displayed on the MASTER for a few seconds, then the “ECo n” message is shown, in which n is the number of the SLAVE that was turned off. Then, the weight transmitted by the possible next detected SLAVE appears.

Note: while the “-0FF-” message is displayed, it is possible to turn off the MASTER by pressing and holding the **C** key.
- by pressing the **C** key on the MASTER until the “-0FF-“ message is displayed for the second time, it is possible to turn off only the MASTER indicator.
- by pressing and holding the **C** key on the active SLAVE it is possible to turn off only that indicator. The MASTER displays the “-oFF-“ message and then the “ECo n” message, in which n is the number of the SLAVE that has been turned off; then the MASTER displays the weight transmitted by the possible next detected SLAVE.
- by pressing d holding the **C** key on a SLAVE that is not active, it is possible to turn off only that indicator.

It is also possible to turn off only the MASTER indicator while it displays the “ECo n” message, by pressing and holding the **C** key. If the auto-off is set on MASTER indicator, this will start working only while the “ECo n” message is shown.

## 5.7 LIST OF WEIGHING

It is possible to store a list that can contain up to 487 values of weight in the EEPROM memory, enabling the protocol MEMORY in **SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ModE >> MEMorY**

**Storing of the weight and management of the list:**

- by pressing the ENTER/PRINT key the current weight value is stored in the list; it is also possible to store the sum of the weighing. When the weight is stored **MEM.XXX** appears, where XXX is the number of the weighing.
- by pressing and holding the ENTER/PRINT key it is possible to print the list of weighing **(Prn.LSt)**, to activate the PC connection **(PC.Conn)** or to delete the list **(dEL.LSt)**.
- it is possible to import the list of weights in WeighConsole™ (see the manual of the DiniTools™ software) which will display the list.

**Note:** the printing function of the ENTER/PRINT key is disabled when the list of weighing is enabled.

**Steps of the weighing list management menu:**

| | |
|---|---|
| **PC.Conn** | PC connection step; by pressing the ENTER/PRINT key the connection is activated (the "PC.WAit" message is displayed). It is possible to download the list on PC with WeighConsole™ (see the manual of the DiniTools™ software) or to send serial commands to the indicator in order to manage the memory (see section "FORMAT OF THE SERIAL COMMANDS", **TECH.MAN.REF.**). If the list is empty, the message "EMPTY" is shown, and the indicator is not connected to the PC. |
| **Prn.LSt** | List printing on the printer serial port. The printed data are the same of the list that can be downloaded on PC through serial commands, but without checksum (for the description of the transmitted data, see "Command for reading the complete list of weighing stored in the memory", **TECH.MAN.REF.**).<br>By pressing the ENTER/PRINT key, the "Print?" message is displayed; press the ENTER/PRINT key to confirm (the "LiSt.." message is visualised), or the C key to exit from the step without printing. In case of confirmation (by pressing ENTER/PRINT) with the empty list, the "EE.EMP" message is displayed. |
| **dEL.LSt** | List deletion from the memory. By pressing the ENTER/PRINT key, the "ErASE?" message is shown; press the ENTER/PRINT key to confirm (the "dEL.." message appears) or the C key to exit from the step without deleting the memory. |

## 5.8 ALIBI MEMORY (ALibi) (OPTIONAL)

**(The mode includes the use of a printer or a PC)**

The alibi memory allows to store the transmitted weight values in the computer for data processing and/or integration. The stored values may then be recalled from the PC serial line or directly on the indicator's display for a following check.
The weighing storage takes place following the reception of the serial command, or following the pressure of the ENTER/PRINT key. The indicator transmits on the PC serial line the gross and tare weights and an ID which clearly identifies the weighing.

**The ID has the following format:**

<Rewriting number> — <Weigh number>

- Rewriting number: number of 5 digits which may go from 00000 to 00255; it indicates the number of complete rewritings of the alibi memory.
- Weigh number: number of 6 digits which may go from 00000 to 131072; it indicates the weigh number in the current rewriting of the alibi memory

With each storage, the weigh number is increased of 000001; when this reaches the 131072 value, it restarts from 000000 and the rewriting number increases of 00001.
Therefore, the weighing relative to an ID may be verified just if:

- it has a rewriting number equal to the current one of the alibi memory, and a weighing number equal or less than the last value received with the “PID” command;
- it has a rewriting number equal or greater than zero, but less than 1, in comparison to the current value of the alibi memory, and a weigh number greater than the last value received with the “PID” command.

Example:
If the stored weighing is the following:
“PIDST,1, 1.000kg, 1.000kg,00126-131072”

the following will be:
“PIDST,1, 1.000kg, 1.000kg,00127-000000”

The storage of a weigh is possible only if the weight is stable, valid (that is, not in underload nor in overload), if the gross weight is equal or greater than zero, and without the TILT alarm (see the paragraph “”TILT” DEVICE”).
The storage of the weigh by pressing a key is possible only if:

- the function is active (net weight passed from 0 or weight instability, or always depending on how the **F.ModE** >> **rEACt** step has been configured in the technical set-up, **TECH.MAN.REF.**).
- the net weight is at least of 20 divisions with approved instrument.

If these conditions are not respected:

- the response to the PID serial command is "NO" instead of the ID.
- there is no transmission in case ENTER/PRINT is pressed.

When the weight is transmitted with the ID, following the pressing of the ENTER/PRINT key, the display shows for about 2 seconds the message " tr.id ", and the transmitted string is the following:
**<ESC>[II]PIDSS,B,LLLLLLLLLLU,YYTTTTTTTTTTU,(ID | NO)<STX>**.
See the following section “Serial commands” for the string description.

**NOTES:**

- The alibi memory can store up to 131072 weighing; then, it restarts from the beginning.
- With approved or not approved instrument, the storage of the weighing through the PID serial command is always possible for all the weighing from 0 to full range value.

**READING OF THE WEIGHING CARRIED OUT**
In order to read the information regarding the weighing carried out:

- Press the **MODE** key.
- The message "rew.id" appears. Then, it is necessary to enter the rewriting number (from 00000 to 00255) and press ENTER/PRINT.
- The message “ id “ appears. Then, it is necessary to enter the weighing number (from 000000 to 131072) and press ENTER/PRINT.
- Now it is possible to see on the display the weighing information in sequence, and scroll through it with the ZERO key (down) or the TARE key (up):
  - "ch. x", in which x is the scale number (always 1).
  - " um yy" in which yy is the unit of measure (kg, g, t o lb).
  - Gross weight (for about a second the message "GroSS" appears, followed by the gross weight value).
  - Tare weight (for about a second, the message "tArE" appears – or "tArEpt" in case of a manual tare – then the tare value appears).
- Press C to return to weighing.

**NOTES:**
- If the alibi memory is empty, when the MODE key is pressed the message “EMPTY” appears for about a second, and then the scale returns to weighing mode.
- If the entered ID is not valid, that is, there is no stored weight linked to the entered ID, the message " no id" appears, and then the scale returns to weighing mode.

**INITIALISATION OF THE ALIBI MEMORY**

It is possible to cancel all the weighing made, initialising the alibi memory. This operation can be made directly on the indicator (see the parameter “SEtuP” >> “ini.AL” of the set-up environment, **TECH.MAN.REF.**) or through the serial command (see “SERIAL COMMANDS” below).

**NOTES:**
- It is not possible to just cancel a single weighing.
- The initialisation is possible only with a non approved instrument.

## SERIAL COMMANDS:

Besides the commands described in the section “FORMAT OF THE SERIAL COMMANDS”, **TECH.MAN.REF.**, in this functioning mode also the commands below are available:

**WEIGH STORAGE**

**Command**

**[II]PID<CRLF>** or **<ESC>[II]PID<STX>**

in which: [II]: 485 address
<ESC>: 27 ascii decimal character
<STX>: 2 ascii decimal character

**Instrument response to the [II]PID<CRLF> command:**

**[II]PIDSS,B,LLLLLLLLLUU,YYTTTTTTTTTUU,(ID | NO) <CRLF>**

**Instrument response** to the **<ESC>[II]PID<STX>** command:

**<ESC>[II]PIDSS,B,LLLLLLLLLUU,YYTTTTTTTTTUU,(ID | NO)<STX>**

| | | | |
|---|---|---|---|
| In which:[II] | 485 address (only when transmitting in 485 mode) | | |
| SS | “OL" (weight in overload) or "UL" (weight in under load) or "ST" (stable weight) or "US" (unstable weight) or "TL" (TILT input closed). | | |
| B | scale number (always 1) | | |
| LLLLLLLLL: | gross weight on 10 digits | | |
| UU: | unit of measure | | |
| YY: | 2 spaces in the case of null tare or semiautomatic tare, “PT” in case of manual tare | | |
| TTTTTTTTT: | tare on 10 digits | | |
| ID | XXXX-YYYYYY | in which: XXXXX is the rewriting number (5 digits, from 00000 to 00255) and YYYYYY is the weighing number (6 digits, from 000000 t0 131072). | |

If the gross weight is negative or unstable, it is transmitted, differently from the ID (“NO” replaces it). In these cases, there is no storage in the alibi memory.

**READING OF THE WEIGHING**
**Command:**
**[II]ALRDXXXXX-YYYYYY <CR o CRLF>**

| | | |
|---|---|---|
| In which: | [II] | 485 address (only when transmitting in 485 mode) |
| | XXXXX | rewriting number (from 00000 to 00255) |
| | YYYYYY | weigh number (from 000000 to 131072) |

**Instrument response:**
**[II]B,LLLLLLLLLUU,YYTTTTTTTTTTUU<CR o CRLF>**

| | | |
|---|---|---|
| In which: | [II] | 485 address (only when transmitting in 485 mode) |
| | B | scale number (always 1) |
| | LLLLLLLLL | gross weight on 10 digits |
| | UU | unit of measure |
| | YY | spaces in the case of null or semiautomatic tare, PT in the case of manual tare |
| | TTTTTTTTTT | tare weight on 10 digits |

**ALIBI MEMORY CANCELLATION (only with non approved instrument)**
**Command:**
**[II]ALDL <CR o CRLF>**

| | | |
|---|---|---|
| In which | [II] | 485 address (only when transmitting in the 485 mode) |

**Instrument response:**
**[II]ALDLOK <CR o CRLF>** if the cancellation has been done
**[II]ALDLNO <CR o CRLF>** if the cancellation has not been done
NOTE: During the cancellation, the display shows “WAit” and all the indicator functions are “frozen”. The answer is received at the end of the cancellation.

The commands are ignored if the system is not in the alibi memory functioning mode.

## 5.9 +/- TOLERANCE CHECK (ChECk)

In this functioning mode, the instrument commands the functioning of the SP1, SP2, SP3 and SP4 icons of the LCD display, and the functioning of the 4 outputs of the expansion board (optional). This is done on the basis of a freely programmed TARGET WEIGHT, LOWER TOLERANCE value, UPPER TOLERANCE value and ENABLING threshold.

----------(thrESh)----------(t.Min)----------TARGET WEIGHT----------(t.MAX)----------

It is possible to carry out a check on the gross weight or the net weight: in the TECHNICAL set-up, after the selection of the Check mode, it is asked to select “GroSS” (gross weight) or “nEt” (net weight). The selection of the check type (net or gross), causes the configuration of the relay’s default parameters.
By setting the threshold for activating the functioning mode, if the weight is under the threshold set, no check on the weight is made. If, instead, the weight reaches or surpasses the threshold, the check on the tolerances is enabled.

**ENTERING THE ACTIVATION THRESHOLD, TARGET AND THE TOLERANCES**

- Press the **MODE** key; the instrument first shows “tArGEt“, then “000000” or the target previously used. Enter the desired target through the keyboard; with **C** the entered value is quickly zeroed. By pressing **C** again the entry is cancelled and the system returns to weighing.
- Confirm with **ENTER/PRINT**; the display first shows “t.Min”, then “000000” or the lower tolerance previously used. Enter the desired lower tolerance through the keyboard; with **C** the entered value is quickly zeroed. By pressing **C** again the entry is cancelled and the system returns to weighing.
- Confirm with **ENTER/PRINT**; the display first shows “t.MAX”, then “000000” or the upper tolerance previously used. Enter the desired upper tolerance through the keyboard; with **C** the entered value is quickly zeroed. By pressing **C** again the entry is cancelled and the system returns to weighing.
- Confirm with **ENTER/PRINT**; the display first shows “thrESh”, then “000000” or the enabling threshold used previously. Enter the desired enabling threshold through the keyboard; by pressing **C** the entered value is quickly cleared, while by pressing again **C** the entry is cancelled and the system returns to weighing.
- Confirm with **ENTER/PRINT**; the display shows “StorE” for an instant; after this, the system returns to weighing.

**NOTE:** If the entered value is wrong (i.e. lower tolerance value is greater than the target or the target is greater than the scale capacity) the indicator zeros the entered value. Furthermore, if a value different than the scale division is entered, it is rounded off to the nearest minimum division multiple.

**PROCEDURE**
After having entered the activation threshold, the target and the tolerance values, put the weight on the scale: if the target is greater than 0, the display shows, at regular intervals, if the weight is within the entered tolerances.

| Scale | Display View | Enabled output |
|---|---|---|
| Weight < Target – t.Min | _undEr | out.01 |
| Target – t.Min ≤ Weight | _oK –X | out.02 |
| Weight = Target | -oK- | out.02 |
| Weight ≤ Target + t.MAX | ¯oK X | out.02 |
| Weight > Target + t.MAX | ¯oVEr | out.03 |
| Weight ≥ thrESh | | out.04 |

**NOTE:** X is the difference (1 digit) between the weight on the scale and the target.

**TECHNICAL NOTES**
- The 0 value is valid for the tolerances and for the activation threshold as well.
- By setting the target at 0, the weight check is disabled.
- If the printer has been configured and a target greater than 0 has been set, the target, tolerances, and check result will be printed with ENTER/PRINT.
- The check of the weight is active also during the modification of the target and the tolerances, according to the last confirmed values. The new entered values start working after having been confirmed.
- The 4 outputs of the expansion board (optional) are automatically enabled depending on the mode selection , and may be used to manage external signals which show the operator whether the weight on the scale is INSUFFICIENT, CORRECT, or ABUNDANT in comparison to the TARGET WEIGHT. Moreover, it is not possible to set the functioning mode of the outputs, but just the status (NO / NC) and the type of check (direct or upon stability).
- It is possible to set the target, the tolerances and the activation threshold via serial communication, see section “FORMAT OF THE SERIAL COMMANDS”, **TECH.MAN.REF.**.

## 5.10 SAMPLE WEIGHT PERCENTAGE (PErC)

In this operating mode, the instrument shows on the display the net weight expressed as a percentage, comparing it with a reference weight which has been previously linked to a percentage.

When the functioning mode is selected, the configuration of the following parameter is required:

- **"WAit.t" : sampling interval.**

Setting of the sampling time (in seconds, with one decimal); the greater the time set, the more precise the sampling.
- Set the desired time.
- Confirm with ENTER/PRINT.
- Press many times the C key until the display shows the message “SAVE?”.
- Press ENTER/PRINT to confirm the modifications, or another key to exit without saving.

With the 17-keys keyboard indicator, it is possible to change the sampling time even during weighing, by pressing the keys F and 7 in sequence. If the entered value is confirmed, it will replace the one in the set-up environment.

**PROCEDURE**

**1)** Place the empty container on the scale and press TARE to set it as a tare.
**2)** Check that the scale is zeroed and press MODE.
**3)** The display suggests a percentage. The possible options are: 100.0, 200.0, 5.0, 10.0, 20.0, 30.0, 40.0, 50.0, 60.0, 75.0.
**4)** Press "ZERO" or "TARE" several times to reach the desired percentage.
**5)** Put the reference weight on the scale and press ENTER/PRINT to confirm or C to cancel the operation and return to weighing.
**6)** Press ENTER/PRINT; the display shows "SAMPL". After a few instants the display will show the selected percentage put on the platform.
**7)** Add the quantity to be measured on the scale and the value will appear on the display.
**8)** By pressing the MODE key, the switching from the percentage visualisation to the net weight's one occurs, and vice versa.
**9)** **To carry out a new sampling**, press and hold the MODE key, and repeat the operations as described from point **3)**.

**"Er.Mot" ERROR DUE TO WEIGHT INSTABILITY DURING THE SAMPLING**

It may happen that during the sampling phase the weight is unstable. In this case, "Er.Mot" appears, lasting for about three seconds. Thus, it is necessary to repeat the sampling operation.

**MINIMUM WEIGHT OF THE SAMPLE**

It is necessary to use a net weight greater than 0.

**VARIABLE PERCENTAGE QUANTITY (only for 17-key keyboard indicator)**

It is possible to insert directly by keyboard any percentage, different from the ones selectable by the MODE key:
- With the scale zeroed, after having stored a possible tare, press the keys **F+ 5** in sequence; the display indicates *"n S"* and then *"0"*, or a quantity already stored.
- Modify and/or enter the quantity (max 3000.0) using the numeric keys.
- Follow the operations described from point **5)** in the **PROCEDURE** section.

**PRINTING**

If a printer is configured, each time ENTER/PRINT is pressed (both in weight and percentage visualisation) the printing of the data is carried out. These data are programmed in the step **SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ConF** of the set-up environment **(TECH.MAN.REF.)**. For instance:
- GROSS weight
- TARE weight
- NET weight
- Percentage quantity on the scale in that moment.

NOTE**:** If the sampling has not been executed, the quantity percentile is not printed.

## 5.11 SINGLE SCALE REPEATER (rEPE)

The system is composed by one or more indicators (named **REPEATERS**) which receive the data of the display or of the weight from another indicator or from a PC/PLC (named **TRANSMITTER**).

In the **REPEATERS**, once this functioning mode has been set, it is necessary to configure the parameter "rEPE.6", "rEPE.dC","Pr1577" or "W.rEPE" in the communication mode of the PC serial port (**SEtuP** >> **SEriAL** >> **CoM.PC** step **(TECH.MAN.REF.)**.
For further configuration and functioning details, please refer to the technical manual (**SEtuP** >> **SEriAL** >> **CoM.PC** step and section "SERIAL PORT TRANSMISSION MODES", **TECH.MAN.REF.**).

If "rEPE.6", "rEPE.dC" or "Pr1577" communication protocol has been set in the **REPEATER**, the "rEPE.6" communication protocol in the **TRANSMITTER** must be configured on the desired port.
If "W.rEPE" communication protocol has been set in the **REPEATER**, it is necessary to set the protocol of the continuous weight transmission on the desired port of the **TRANSMITTER**.
For further configuration details refer to the technical manual of the connected indicator.

**FUNCTIONING**

Once turned on, the indicator awaits for the data. In case it does not receive a correct communication string, the communication parameters are wrong, or if it does not receive any character, it remains in the test condition – that is, with all the central segments of the display turned on.

When the serial string of the connected instrument is identified, the indicator repeats the data of the display, or the weight string of the instrument to which it is connected.

**WARNING:**

- The keys pressed in the **REPEATER** are not repeated on the **TRANSMITTER** and vice versa.
- The indicator works as a simple weight repeater: only the **C – ON/OFF** key is enabled (for turning on/off).

**Example of Dini Argeo REPEATER/TRASMITTER configuration:**

| | FunCt | PCModE | bAud | bit |
|---|---|---|---|---|
| **REPEATER** | **rEPE** | **rEPE.6** | **9600** | **n – 8 - 1** |
| **TRANSMITTER** | **(*)** | **rEPE.6** | **9600** | **n – 8 - 1** |

**(*) all functions (except "MAStr")**

## 5.12 DISPLAY WITH SENSITIVITY X 10 (ViSS) (TO BE USED AS TEST DURING THE CALIBRATION)

By pressing the MODE key, the switching from the weight display with normal sensitivity to a sensitivity ten times greater occurs. In fact, it can be noticed that the last digit on the right of the display will have a sensitivity equal to the scale's division divided by 10.

The printout can only be carried out when the weight is displayed with the standard sensitivity.

**NOTE:** In case the instrument is APPROVED, when "MODE" is pressed, the sensitivity X 10 is displayed for five seconds, after which the instrument returns to standard weight displaying.

Furthermore, if the **SEtuP >> d.SALE** step has been set as **yES (TECH.MAN.REF.)**, this particular visualization is possible only if the capacity is equal or more than 100 kg (220 lb).

## 5.13 HOLD: FREEZING THE WEIGHT ON THE DISPLAY (hLd)

By pressing MODE, if the functioning mode is "StAtiC," the value of the weight is held on the display, and "hoLd" is shown alternately with the weight value (every 5 sec). To unlock the weight value on the display, press MODE key again (the "norMAL" message is displayed).

By pressing and holding **MODE** it is possible to enter in a menu for the selection of the type of functioning:

"StAtiC" (static functioning, previously described), "hoLd 0"…"hoLd 5" (dynamic functioning, for weighing of moving objects, like animal weighing. The higher the numeric parameter, the greater the intervention of the HOLD function).

Press ZERO or TARE key to change the parameter and ENTER/PRINT to confirm. Then press **MODE** to enable the selected functioning; by pressing again the **MODE** key the function is disabled.

## 5.14 HORIZONTAL TOTALIZER (Sum of lots) (tot o)

In this functioning mode it is possible to carry out weight totalisation. When the totalising mode is selected, both horizontal (tot o) and vertical (tot S), it is required to set the following parameters:

**Min.WGt:** MINIMUM WEIGHT ACCEPTABLE FOR TOTALISATION

The minimum weight which must be on the scale in order to carry out the totalisation.

**MAX.WGt:** MAXIMUM WEIGHT ACCEPTABLE FOR TOTALISATION

The maximum weight which must be on the scale in order to carry out the totalisation.

**MAX.tot:** NUMBER OF CONSECUTIVE TOTALISATIONS AFTER WHICH THE TOTAL IS AUTOMATICALLY PRINTED AND RESET

After having made the weighing set, the general accumulated total is printed and reset. Set a value between 0 and 63.

**NOTE:** the value 0 disables the function.

**tot.Mod:** TYPE OF TOTALISATION (AUTOMATIC OR MANUAL)

In this step the selection of the totalisation type is required; manual (manual) or automatic (Auto). With ZERO and TARE the parameter is changed, with ENTER/PRINT it is confirmed.

- At every accumulation, the manual totalisation includes the visualisation of the message “totAl”, that is, the number of the weighing and the total net weight, before the data printing.
- The automatic totalisation includes the automatic acquisition of the stable weight, therefore, the visualisation of the message “totAl” on the display and, then, the data printing.

**n.WEiGh:** VISUALIZATION OF NUMBER OF WEIGHING AND ACCUMULATED TOTAL
**yES** when a totalisation is executed, the display shows “n X” (in which X is the number of weighing) for a while, and then the accumulated total.
**no** when a totalisation is executed, the display only shows “t. X” (in which X is number of weighing).

**FrZ.tot:** HOLD OF THE GENERAL TOTAL ON THE DISPLAY
This step allows to hold (or not) the weight of the totalised general total on the display (at the end of all totalisations), until the weight decreases under the value set in **<<Min.WGt>>,** or until it returns to Zero.
**yES** each time the partial total is printed and reset, it is held on the display until the weight goes below the minimum threshold set in the **“Min.WGt”**.
**no** function disabled.

**WAit.St:** WAITING TIME BEFORE REACHING THE WEIGHT STABILITY AND TOTALISATION **(<<tot.Mod>> =** MANUAL**)**
In this step it is required to insert the maximum waiting time (in seconds) needed to reach stability, in order for the weight to be totalised.

**CPS.tAr:** COMPULSORY TARE BEFORE TOTALISATION (THE FIRST TIME)
This step permits to insert the compulsory tare before starting the totalisation.
**yES** a tare value must be present before totalising. If the manual totalisation is enabled, when the MODE key is pressed, the instrument considers as tare the weight on the scale. If the automatic totalisation is enabled, the instrument automatically put in tare the weight on the scale at the beginning of the totalisation.
**no** function disabled.

**CONFIGURATION MENU IN WEIGHING STATE:**
In the weighing state, by pressing MODE two times in sequence, it is possible to enter in a menu in which the quick modification the parameters **Min.WGt**, **MAX.WGt** and **MAX.tot**, previously described, can be carried out.
**NOTE:** the modified values are stored until the instrument is turned on.

**TOTALISATION OPERATIONS**
In order to carry out the totalisation it is necessary to press the MODE key if “tot.Mod” is set on “**MAnuAL**“, or the totalisation is automatically executed if “tot.Mod” is set on “**Auto**“. The weight is accumulated in two total levels (a partial total and a grand total).
**To totalize, the net weight must be**
- at least 1 division and between minimum and maximum weight with non approved instrument and manual totalisation;
- at least 10 division and between minimum and maximum weight with non approved instrument and automatic totalisation;
- at least 20 divisions and between minimum and maximum weight with approved instrument.

To avoid undesired accumulations, the "MODE" key is active just once. It reactivates according to the setting of the “rEACt” parameter in the SET-UP environment, that is, after passing by the net zero of the scale, by instability, or always (see “REENABLING THE PRINTOUTS AND THE INDICATOR FUNCTIONS” section).
If the presence of a printer has been configured, the "MODE" key causes also the printing of the weight values.

In the manual totalisation, by pressing the MODE key again, **without having reactivated the totalisation** the "no.0.unS" error message is displayed.

By pressing and holding the MODE key, it is possible to see the number of weighing and the partial total.

**NOTE:** In the normal totalisation:
- if the gross or net weight is equal to zero, by pressing the MODE key , the display shows the blinking "totAL" message. If the weight does not reach a value valid for the totalisation within the time set in the "WAit.St" step, the display shows the "Error" and "LoW" messages in sequence.
- if the indicator is in the under load or over load status, by pressing the MODE key the display shows the blinking "totAL" Message. If the indicator remains in these conditions for the time set in the "WAit.St" step, the "un.oVEr" error message is displayed.

**TOTALISATION WITH PRINTING**

If the presence of a printer has been set, upon each pressing of MODE, the data programmed in step **SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ConF** of the set-up environment **(TECH.MAN.REF.)**, are printed. For example:
- Weighing number
- GROSS weight
- TARE weight
- NET weight

**PRINTING AND ZEROING OF THE TOTALS**

The instrument has two different total levels, a partial total and a grand total, which increase at each totalisation. They can be printed and zeroed independently from each other.

To print and zero the PARTIAL TOTAL, it is necessary to press the ENTER/PRINT key for an instant.
The number of weighing executed and the NET WEIGHT PARTIAL TOTAL are printed.
If the parameter **"**n.WEiGh**"** is set on **"**yES", the message "tot.CLr", the number of weighing and the partial total are displayed.

To print and zero the GRAND TOTAL, it is necessary to press the ENTER/PRINT key for a few seconds.
The number of weighing executed and the NET WEIGHT GRAND TOTAL are printed.
If the parameter **"**n.WEiGh" is set on "yES**"**, the message "G.totAL", the number of weighing and the general total are displayed.

To view at any time the number of weighing and the accumulated net weight in the totals:
- By pressing in sequence the **F** and **7** keys, the following will be displayed in sequence:
  **"n x"**, in which x is the number of weighing made
  **"totAL"**, followed by the accumulated **PARTIAL NET TOTAL**.

- By pressing in sequence the **F** and **6** keys, the following will be displayed in sequence:
  **"n x"**, in which x is the number of weighing made
  **"totAL"**, followed by the accumulated **GRAND NET TOTAL**.

**MEMORY STORAGES**

It is possible to save the weighing totalization in one of nine memory storages (identified from 1 to 9).
- Press in sequence the **F** and **5** keys; the display shows *" rn n ":*
- Enter the desired storage number (from 1 to 9).
- Now all the totalizations carried out will be stored in the storage number just entered.
- To change the storage, repeat the previous operations.

To recall or zero the PARTIAL TOTAL of a storage, it is necessary to recall first its identifying number, as previously described; however, the GRAND TOTAL is not available for each storage.

**NOTE:**
- The selected storage remains active for all the following totalizations, until it is substituted with another.
- All the values accumulated in the single storage numbers are automatically zeroed each time the instrument is turned off.
- When turned on, the indicator automatically goes to storage nr. 0 (not selectable).
- Storage nr. 0 is considered as the basic one, in which non-addressed weights are accumulated.

## 5.15 VERTICAL TOTALIZER (Sum by recipe) (tot S)

It is like the horizontal totaliser, but with each pressing of MODE the indicated weight is totalised and automatically considered as tare; in this way it is possible for example to fill a container with various products.
**Note:** At the end of the totalisation operations, in order to see the gross weight on the scale it is necessary to press the C key.

## 5.16 COUNTING (Coun)

In this functioning mode it is possible to carry out some reference operations in order to use the scale for counting pieces. When this functioning mode is selected, the configuration of some parameters is required:

- **"uM.APW" : unit of measure of the average unit weight (APW)**.

  - Press ENTER/PRINT to enter the step.
  - With the ZERO or TARE keys select the unit of measure (*g / kg / t / Lb*).
  - Confirm with ENTER/PRINT.
  - Press many times the C key until the display shows the message “SAVE?”.
  - Press ENTER/PRINT to confirm the changes made, or another key to exit without saving.

  Independently from the selected unit of measure, the APW has always three fixed decimals.

- **"WAit.t" : sampling interval.**
  Setting of the sampling time (in seconds, with a decimal). The greater the time set, the more precise the calculated APW will be.

  - Press ENTER/PRINT to enter the step.
  - Set the desired time.
  - Confirm with ENTER/PRINT.
  - Press many times the C key until the display shows the message “SAVE?”.
  - Press ENTER/PRINT to confirm the changes made, or another key to exit without saving.

  It is possible to change the sampling time also while weighing, by pressing the keys F and 7 in sequence. If the entered value is confirmed, it replaces the one in the set-up environment.

**COUNTING PROCEDURE**

The operations to be carried out are the following:

**1)** Place the empty container on the scale and press TARE, to set it as tare.
**2)** Check that the display indicates zero and press MODE, in order to enter in the counting function.
**3)** The display suggests a REFERENCE QUANTITY. The possible options are: 5, 10, 20, 30, 40, 50, 60, 75, 100, 200.
**4)** Press ZERO or TARE the number of times needed to reach the desired sample quantity.
**5)** Put the quantity of pieces chosen for the SAMPLE on the scale and press ENTER/PRINT to confirm, or C to cancel the operation and return to weighing.
**6)** Press ENTER/PRINT. The display indicates SAMPL, while the indicator calculates the **A**verage **P**iece **W**eight (**APW**). After a few instants the display indicates the quantity selected and put on the platform.
**7)** Add the rest of the items to be counted in the container. Their value will appear on the display.
**8)** Unload the scale. The APW will remain stored in memory for the next counting of similar pieces, without having to repeat the REFERENCE operation.
**9)** The MODE key allows the switching from the display of the number of pieces to the display of the net weight and vice versa.
**10)** **To carry out a new reference operation**, press and hold the MODE key and repeat the operations as described from point **3)**.

**NOTE:** If the number of calculated pieces is greater than 999999, the display shows just the first 6 digits on the right.

**PIECE COUNTING DURING PICKING**

**1)** Load a FULL container on the scale and press "TARE" to set it as tare.
**2)** Press "MODE". The display suggests various REFERENCE QUANTITIES: 5,10,20,30,40,50,60,75,100,200.
**3)** Press "ZERO" or "TARE" various times until the chosen quantity is displayed.

**4)** Take off the same number of pieces from the container, and press "ENTER/PRINT" to confirm. The display shows "SAMPL" while the indicator calculates the Average Piece Weight. The display shows the quantity extracted (with negative sign).

**5)** Continue the counting in extraction.

**"Er.Mot" ERROR DUE TO WEIGHT INSTABILITY DURING THE SAMPLING**

It may happen that during the sampling phase the weight is unstable and, therefore, it is not possible to calculate correctly the APW. The "Er.Mot" error is shown, lasting for about three seconds. Thus, it is necessary to repeat the sampling operation.

**MINIMUM WEIGHT OF THE SAMPLE**

It is advisable to use a reference quantity equal or greater than 0,1% of the scale capacity.

In any case, the weight of the reference quantity should not create an APW lower than the two internal points of the converter (intrinsic limit of the instrument). If this condition takes place, during the sampling, the display will indicate for an instant "Error", and the quantity put on the plate will not be accepted. Thus, it will be necessary to use a higher reference quantity.

**VARIABLE SAMPLE SIZE (REFERENCE QUANTITY)**

It is possible to insert directly by keyboard any reference quantity, different from the ones selectable by the MODE key.

- With the scale at zero, after having stored a tare, press "**F**" + "**5**"; the display will indicate *"n S"* and then *"0"*, or quantity already stored.
- Modify and/or enter the quantity (up to 999999) using the numeric keys.
- Follow the operations described in point **5)** of the **COUNTING PROCEDURE** section.

**DISPLAY AND MODIFICATION OF THE AVERAGE PIECE WEIGHT**

It is possible to view or enter a known Average Piece weight using the keyboard. This can significantly speed up the reference operations.

- With the scale at zero, after having stored a possible tare, press "**F**" + "**6**", or press and hold the ENTER/PRINT key.
- The display will indicate *" APW "* and then "0000.000", or a previously entered value expressed with three decimal digits in the programmed unit of measure.
- Enter the APW value with the keyboard (or leave the one present) and press ENTER/PRINT to confirm.

  **Example:**
  Unit of measure of the APW in g
  0000.000 means 0000,000 g (for example APW = 0001,050 = 1,05 g).

**PRINTING UNDER COUNTING MODE**

If the presence of a printer has been configured, each time ENTER/PRINT is pressed (both in weight and pieces display), the data programmed in the **SEtuP** >> **SEriAL** >> **CoM.Prn** >> **Pr.ConF** of the set-up environment **(TECH.MAN.REF.)** are printed. For example:

- GROSS weight
- TARE weight
- NET weight
- Quantity of PIECES (PCS) on the scale in that moment.
- Calculated APW, expressed in the unit of measure configured, with three decimal digits.

# 6 INSTRUMENT MESSAGES DURING ITS USE

| MESSAGE | DESCRIPTION |
|---|---|
| **ZEro** | The scale is zeroing the weight. |
| **AL.Err** | It is displayed when the alibi memory functioning mode is selected and, during start-up, it is not connected, or there are communication problems between the indicator and the board. The "NET/GROSS SWITCH" functioning is automatically set, but it is not saved in the set-up environment. |
| **buSy** | Print under way (PRN serial port is occupied) or indicator waiting to transmit a printing to a PC. |
| **unStAb** | Print attempt with an unstable weight. |
| **un.oVEr** | Print attempt with the weight in underload or in overload, that is, with a weight of 9 divisions greater than the capacity or of 100 divisions below the gross zero. |
| **LoW** | Weight less than the minimum one required for printing, totalisation or transmission of the string, standard or extended, when pressing of the print key. |
| **no.0.unS** | Weight not passed by net 0 or by instability. |
| **ConV.** | In standard mode, with approved instrument, print is carried out while the instrument is converting the unit of measure. |
| **no in** | In the input/output mode (set as "in.out"), the input weight is acquired for a second time. |
| **no out** | In the input/output mode (set as "in.out"), the output weight is acquired for a second time. |
| **no 1** | In the input/output mode (set as "G.t." or "1st.2nd"), the input weight is acquired for a second time. |
| **no 2** | In the input/output mode (set as "G.t." or "1st.2nd"), the output weight is acquired for a second time. |
| **Error** | In the counting mode, the sampling has not been made because a higher reference quantity should be used. In the equalization procedure, the cell that is being equalized is not the one with the greater weight. |
| **Eq.Err** | It is displayed when it was not possible to carry out the equalization. |
| **StorE** | It is displayed when data are stored in the permanent storage of the instrument (setpoint, tares, etc.) |
| **PrEC.** | It is displayed if the zero point is calibrated without first having confirmed the number of calibration points |
| **ErMot** | Weight unstable during the acquisition of a point in the calibration phase. |
| **ErPnt** | During the acquisition of a calibration point, a null value has been read by the converter. |
| **Er – 11** | Calibration error; a too small standard weight has been used. It is advisable to use a weight equal to at least half of the scale capacity. |
| **Er – 12** | Calibration error: the acquired calibration point (tP1 o tP2 o tP3) is equal to the zero point (tP0). |
| **Er – 37** | The converter number of points by division is less than 2. Execute again the calibration with special attention to capacity and division. |
| **Er – 39** | It is displayed when the instrument has not been calibrated and initialized yet.<br>Press the TARE key when the instrument displays "Er – 39" to enter the technical set-up environment. Carry out the initialization of the indicator ("dEFAu" parameter), the programming of all the parameters of the set-up environment, and the calibration. |
| **Er – 85** | It is displayed when the instrument has been initialized but not yet calibrated.<br>Press the **TARE** key when the instrument displays "Er – 85" to enter the technical set-up environment and carry out the calibration. |
| **C.Er. – 36** | During the calibration some internal negative points have been calculated:<br>- the calibration point is less than the zero point.<br>- the signal is negative (check the connections). |
| **undEr** (flashing) | The weight in underload (that is, a weight of 100 divisions under gross zero, with approved intrument) is notified through this message and an acoustic signal. |

| | |
|---|---|
| **oVEr** (flashing) | The weight in overload (that is, a weight of 9 divisions more than the capacity) is notified through this message and an acoustic signal. |
| **ECo X** | It is displayed for an instant if the master can connect to the slave X. If the connection is not possible, the message remains fixed and the master emits an acoustic signal. |

# 7 PRINTING EXAMPLES

WEIGHING NR. 00000001
GROSS 2,000 kg
TARE 0,500 kg
NET 1,500 kg

WEIGHING NR. 00000002
GROSS 3,000 kg
TARE 1,000 kg
NET 2,000 kg

WEIGHING NR. 00000002
TOTAL NET 3,500 kg
TICKET NR 2

Totalizer Mode

GROSS (HOLD) 2,000 kg
TARE (HOLD) 0,500 kg
NET (HOLD) 1,500 kg
TICKET NR. 1

Hold Mode

HEADING 1
HEADING 2
HEADING 3
HEADING 4
GROSS 8,000 kg
TARE 3,000 kg
NET 5,000 kg
TICKET NR. 1

Standard Weight Indicator Mode
(UISS, Std, ntgS)

GROSS 1,000 kg
TARE 0,500 kg
NET 0,500 kg
PCS 100
APW 0,005 kg
TICKET NR. 2

Piece Counting Mode

HEADING 1
HEADING 2
HEADING 3
HEADING 4
GROSS 8,000 kg
PT 3,000 kg
NET 5,000 kg
TICKET NR. 11

Indicator in Standard Mode
(ViSS, Std, ntGS)

| | |
|---|---|
| REGISTER # 5 | |
| WEIGHING NR. | 00000001 |
| GROSS | 2,000 kg |
| TARE | 0,500 kg |
| NET | 1,500 kg |

| | |
|---|---|
| REGISTER # 5 | |
| WEIGHING NR. | 00000002 |
| GROSS | 3,000.kg |
| PT | 1,000 kg |
| NET | 2,000 kg |

| | |
|---|---|
| REGISTER # 5 | |
| WEIGHING NR. | 00000002 |
| ID1 | 234 |
| ID2 | 6789 |
| TOTAL NET | 3,500 kg |
| TICKET NR. | 2 |

Totalizer Mode With Register

| | |
|---|---|
| GROSS (HOLD) | 2,000 kg |
| TARE (HOLD) | 0,500 kg |
| NET (HOLD) | 1,500 kg |
| ID1 | 2345 |
| TICKET NR. | 10 |

Hold Mode

| | |
|---|---|
| GROSS | 1,000 kg |
| TARE | 0,500 kg |
| NET | 0,500 kg |
| PCS | 100 |
| APW | 0,005 kg |
| ID1 | 234 |
| ID2 | 6789 |
| TICKET NR. | 13 |

Piece Counting Mode

# WARRANTY

The TWO YEAR warranty period begins on the day the instrument is delivered. It includes spare parts and labour repair at no charge if the INSTRUMENT IS RETURNED prepaid to the DEALER'S PLACE OF BUSINESS. Warranty covers all defects NOT attributable to the Customer (so are not included in the warranty, failures resulting from improper use) and NOT caused during transport.

If on site service is requested (or necessary), for any reason, where the instrument is used, the Customer will pay for all of the service technician's costs: travel time and expenses plus room and board (if any).

the Customer pays for the transport costs (both ways), if the instrument is shipped to DEALER or manufacturer for repair.

The WARRANTY is VOIDED if any of the following occurs: repairs or attempted repairs are made by unauthorised personnel, connected to equipment installed by others, or is incorrectly connected to the power supply, or instrument has defects or damage due to carelessness or failure to follow the guidelines in this instruction manual.

This warranty DOES NOT provide for any compensation for losses or damages incurred by the Customer due to complete or partial failure of instruments, even during the warranty period.

***AUTHORIZED SERVICE CENTRE STAMP***