PALLET TRUCK SCALE

TPWATEX3GD

USER MANUAL

TPWATEX3GD_03_10.12_EN_U

INDEX

PREMISE

This manual contains alla the instructions for use and all information necessary for the correct operation of the weighing system.
In thanking you for the acquisition of this weight system, we want to call to your attention some aspects of this manual:

- This booklet supplies useful instrucions for the correcr operarion and maintance of the weighing system to which it refers; it is therefore necessary to pay the utmost attention to all the paragraphs which illustrate the most simple and secure way to operate;
- This booklet must be considered an integral part of the pallet truck scale and must included with the deed of sale;
- Neither this publication, nor part of it, can be reproduced without written authorization on the part of the manufacturing firm;
- All of the information reported herein is based on data avaiable at the moment of printing; the manufacturing firm reserves the right to carry out modifications to its own products at any moment, without notice and without any sanction. It is therefore suggested to always verify possible updates.
- Some functions written in the sections regarding the weight indicator might not be available, because these depend on the type of weighing system that has been purchased.

PS: The person responsible for the use of the pallet truck scale must make sure that all of the safety rules in force in the country of its use should be applied, to guarantee that the equipment is used in conformity with the use for which it is destined and avoid any dangerous situation for the utilizer.
The manufacturing firm declines any responsability derivable from possible errors of wheighing.

This pallet truck is designed for lifting and transporting loads put on a pallet or containers placed on flat, level sufaces with adequate resistance.
It is also fitted with an electronic weighing system made up of a DFWATEX3GD multifunction digital indicator put on the column and of 4 load cells rigidly fixed **inside the stainless steel forks.**

The TPWATEX3GD is designed in order to avoid causes for sparks. The potential friction surfaces have been made in stainless steel.
The metallic structure parts are electrically connected together and grounded through a sliding metallic chain. With the TPWRAS option (antistatic driving wheels), the metallic structure is grounded through the sliding metallic chain and through the antistatic wheels

1. INTRODUCTION

The purpose of this manual is to help the user get to know the weight indicator's various functioning modes, the keys' functions and the display indications. It is possible that one may incur into the phrase **"TECH.MAN.REF."**: this means that an advanced function is being described (therefore, for the technical personnel) and which is further explained in the corresponding technical manual.
We advise to carefully follow the instructions for programming the weight indicator; by taking actions not indicated this manual, one could cause the scale to not work properly.

In addition to having all the characteristics of a high precision scale, the indicator has the unit of measure / pounds conversion function, the gross weight / net weight conversion, set point on gross weight or net weight, in/out weigh, multiscale repeater, alibi memory, +/- tolerance check, sample weight percentage, freezing the weight on the display, peak detector, weighs totaliser and piece counter.

The indicator adapts to normal weighing applications in either industrial settings, such as during factory production processes, or that of commerce, such as legal for trade applications.

This manual has been made as carefully and exactly as possible; in any case, your suggestions are always welcome.

Any attempt to repair or alter the unit can expose the user to the danger of electric shock and it will void our warranty. This instrument is covered under warranty provided that **IT HAS NOT BEEN TAMPERED WITH BY THE USER** for any reason. If any problem with the unit or system has been experienced please notify the manufacturer or the dealer from which the instrument was acquired.

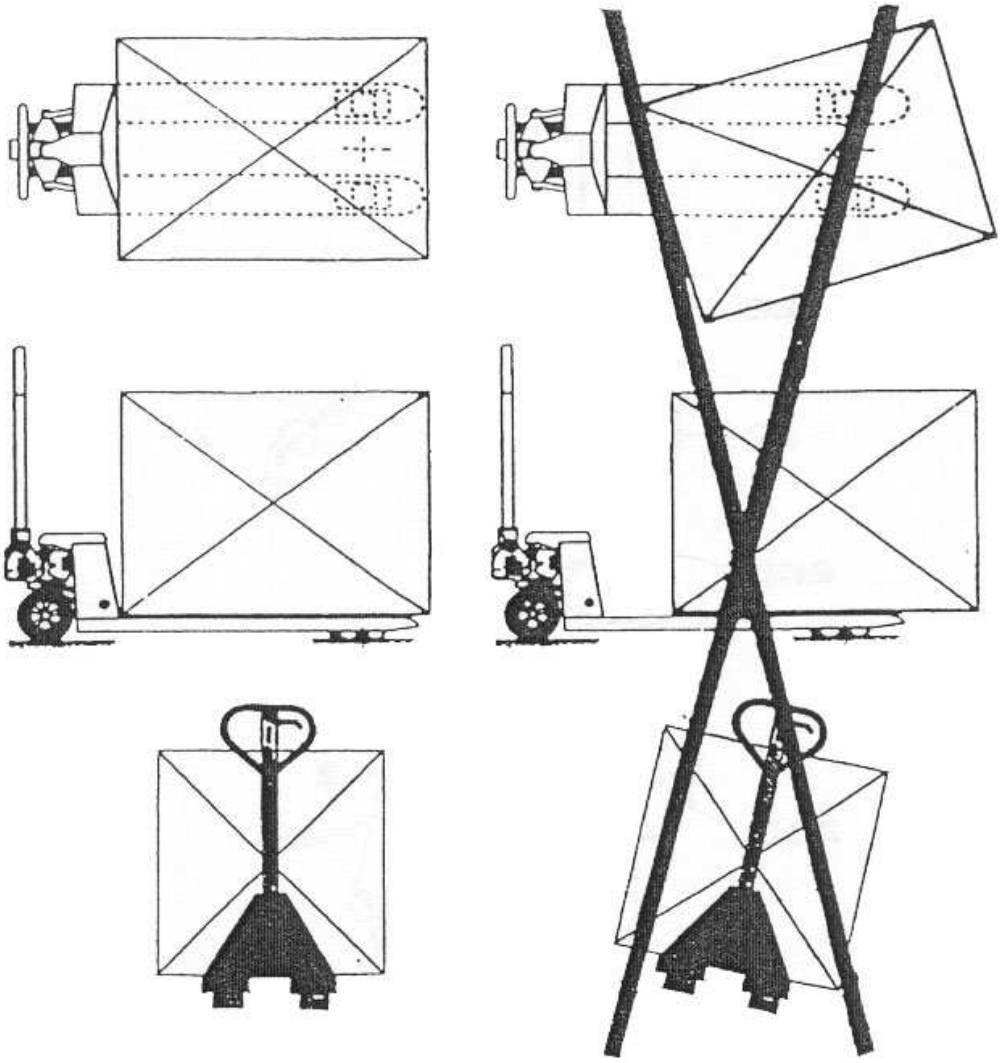
Do not pour liquids on the indicator!
Do not use solvents to clean the indicator!
Do not expose instrument to either direct sun light or any heat sources!
Always mount the indicator and platform in a vibration free setting!
Read carefully & apply what described in the POWER SUPPLY & START-UP section!

2. !! WARNINGS !!

- This scale has been designed to only weigh on pallets
- NEVER load the scale beyond the maximum capacity shown on the weight indicator's plate.
- Load only when forks are in the lowest position.
- Check that the pallet truck scale is in good operating conditions.
- To get the best weighing results, lift up the forks (after loaded) about 5-10 cm.
- The use of the instrument in hazardous areas require a special attention and special precautions during the use and maintenance
- The instrument has been approved for using in zones having precise features: do not install and use the instrument in environments different than those provided for.
- The installation, maintenance and repair of the instrument, must be made by qualified and authorized personnel.
- The maintenance must be made after removing the voltage/power supply of the instrument.
- Only spare parts approved by Dini Argeo must be used.
- Do not paint
- The safety of the explosion-proof system is guaranteed **only** if the system is installed, used and taken care of following the instructions given in this manual and in the technical manual **(TECH.MAN.REF.).**
- Avoid accumulations of electrostatic charges; therefore, when using the instrument in a hazardous zone, the appropriate work clothing must be used by the operator or the maintenance person.
- Close all the holes with caps and/or cable glands for inserting cables in the weight indicator case; close well all the cable glands with the relative appropriate cable section and with the wrench having the relative measurement (see the "Instructions for installation in hazardous area" section).
- Do not cover the instrument with coverings made by materials which could have electrostatic charge
- **The safety of the instrument depends on the IP protection degree. Do not tamper with or alter with the instrument's seals (cable passings, i, locking screws tightening)**
- It is forbidden to modify or repair the instrument with components not conforming to the declaration CE; this action compromises the safety of the instrument (**with a subsequent loss of the Ex approval**) and the nullification of the product warranty.
- It is forbidden to connect the instrument to modules not provided for by the declaration CE; this action compromises the safety of the instrument (**with a subsequent loss of the Ex approval**). Contact Dini Argeo srl for further information.
- **Where not forseen, all the cable connections between the instrument and the peripheral units, are protected in metallic raceways or armoured sheaths.**
- Use just the provided for battery; Contact Dini Argeo srl for further information.
- Be very careful when using the instrument; any sparks could cause an explosion.
- Recharge the battery **only** in a safe zone and use **just** the appropriate battery charger.

- Do not open, repair or modify a defective battery; this operation causes the loss of its safety. Dispose of the defective batteries.
- The battery should be connected/disconnected only in a non ATEX classified zone.
- In case of approved scale, the weighing has to be done on a EUR-EPAL 800x1200mm pallet (ref. Norms UIC 435-2 and UIC 435-4).

FIX THE LOAD ON THE PALLET, AS SHOWN IN THE DRAWING



3. MAIN TECHNICAL SPECIFICATIONS

POWER SUPPLY	With extractable battery (6 V – 4,5 Ah), rechargeable in safe zone.
MAXIMUM POWER	5 VA
OPERATING TEMPERATURE	From -20 to +40 °C (14 to 104 °F) (with even temperature).
DISPLAYED DIVISIONS	10000e, 3X3000e for legal for trade use expandable to 800.000 for internal use (with minimum signal coming from the 1,6mV/V cell).
MAXIMUM INPUT SIGNAL	6 mV/V.
MINIMUM VOLTAGE PER DIVISION	0.3 μV (approved instrument); 0.03 μV (non approved instrument).
RESOLUTION IN CALCULATION	1'500'000 points (with signal in input equal to 3mV/V).
KEYBOARD	water resistant polycarbonate mechanical keys with tactile and acoustic feedback.
TARE FUNCTION	Available on entire range.
AUTO POWER OFF	Programmable from 1 to 255 minutes, or disinserted.
LOW BATTERY WARNING	"Low Batt " will appear on the display
BATTERY RECHARGE TIME	12 hours (maximum).
LOAD CELL POWER SUPPLY	5Vdc ± 5%, 120Ma (max 8 cells of 350 Ohms)
LOAD CELL CONNECTIONS	1 connection with 6 wires and Remote Sense and 4 connections with 4 wires without Remote Sense.
PROTECTIVE CASE	IP68 Stainless Steel case available in desk or wall mount configurations.
SERIAL OUTPUTS	1 RS232/TTL input/output configurable for connection to PC/PLC or WEIGHT REPEATER. 1 RS232 input/output for connection to printer.

THE PARTS OF THE INSTRUMENT CONTAINING DANGEROUS ELECTRICAL TENSION ARE ISOLATED AND INACCESSIBLE TO THE USER UNLESS IT HAS BEEN DAMAGED, OPENED, OR ALTERED.

4. SYMBOLS

Below are shown the symbols used:
- in the manual to recall the attention of the reader.
- on the instrument to recall the attention of the user.

⚠	**!!WARNING!!** This operation must be made by specialized personnel
CE	CE CONFORMITY
III	IDENTIFYING THE PRECISION CLASS
Ex	NOTES WHICH PARTICULARLY CONCERN THE USE OF THE INSTRUMENT IN A HAZARDOUS AREA
	The crossed-out wheeled bin on the product means that at the product end of life, it must be taken to separate collection or to the reseller when a new equivalent type of equipment is purchased. The adequate differentiated refuse collection in having the product recycled, helps to avoid possible negative effects on the environment and health and supports the recycling of the materials of which the equipment is made. The unlawful disposal of the product by the user will entail fines foreseen by the current regulations.
"TECH.MAN.REF."	Means that an advanced function is being described (therefore for the technical personnel) which will be further explained in the corresponding technical manual.

5. DESCRIPTION of the SYSTEM

The TPWATEX3GD series' electronic weighing terminals are devices for hazardous areas having presence of gas, designed and made according to the ATEX 94/9/CE directive, group II category 3GD according to the EN 60079-0, EN 60079-15, EN61241-0 e EN61241-1 norms. The protection mode of the elettronic weighing terminal (DFWATEX3GD) is EEx nR "limited breathing" and tD.

The weighing terminal is made up of a stainless steel case, containing various electronic circuits, a CPU central unit, LCD display, mechanich keyboard and power supply with extractable battery, rechargeable in safe zone.

The TPWATEX3GD is designed in order to avoid causes for sparks. The potential friction surfaces have been made in stainless steel. The metallic structure parts are electrically connected and a sliding chain is provided for its grounding.

6. MARKINGS

The markings of the meccanics of the pallet truck scale (TPW) is:

II 2 GD c IIC T6 85°C

The markings of the electronic weighing terminals (DFWATEX3GD) is:

II 3G EEX nR IIC T6

II 3D Ex tD A22 IP68 T130°C

	Manufacturer logo: Dini Argeo srl;
Model XXXXXXX	Commercial code of the instrument;
S/N: xxxxx 08	Serial number and production year;
CE	CE *Markings*;

II 2 GD c IIC T6 85°C

II	Group II (surface)
2	Category of the of the pallet truck scale (TPW)
GD	Explosive atmospheres caused by gas, fog or vapours and dust
c IIC T6 85°C	Protection mode, gas group, class of temperature of the pallet truck scale (TPW)

II 3G EEx nR IIC T6	Specific marking against the explosions in the presence of gas:
II	Group II (surface);
3	Category 3 equipment;
G	Explosive atmospheres caused by gas, fog or vapours
EEx nR IIC T6	Protection mode, gas group, class of temperature

II 3D Ex tD A22 IP68 T130°C	Specific marking against the explosions in the presence of dust:
II	Group II (surface);
3	Category 3 equipment
D	Explosive atmospheres caused by dust
Ex tD A22 IP68 T130°C	Protection mode, IP Protection degree of the metallic case (according to EN60529) and maximum superficial temperature of the case.

For the marking of the whole of the TPWATEX3GD see the CE declaration of conformity attached in this manual.

Danger zone		Category according to the 94/9/CE directive
Gas, mist or vapour	Zone 0	1G
Gas, mist or vapour	Zone 1	1 G or 2G
Gas, mist or vapour	Zone 2	1 G, 2G or 3G
Dust	Zone 20	1D
Dust	Zone 21	1 D or 2D
Dust	Zone 22	1D, 2D or 3D

7. INSTRUCTIONS FOR INSTALLATION IN DANGEROUS AREA

The TPWATEX3GD series' electronic weighing terminals are devices for hazardous areas having presence of gas, designed and made according to the ATEX 94/9/CE directive, group II category 3GD according to the EN60079-14, EN60079-17, EN61241-14, EN61241-17, EN 1127-1 e EN 13463-1norms.

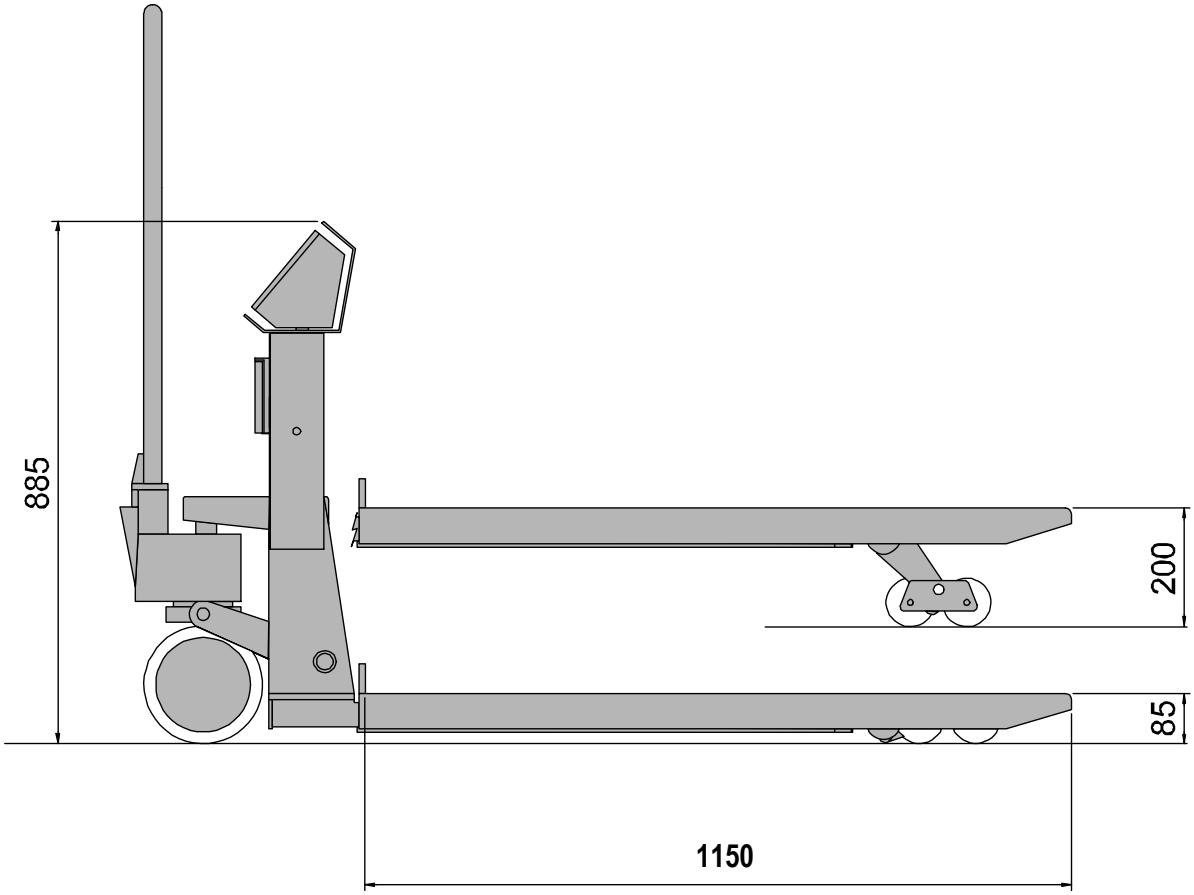
- Fitted battery pack: substitute only with battery pack of the same type. The **RECHARGE** must be made **only in SAFE ZONE** and just with the fitted recharge device.
- The indicator is grounded through a chain. Do not remove the chain.
- Warning plate (JBQ4/EX JUNCTION BOX)

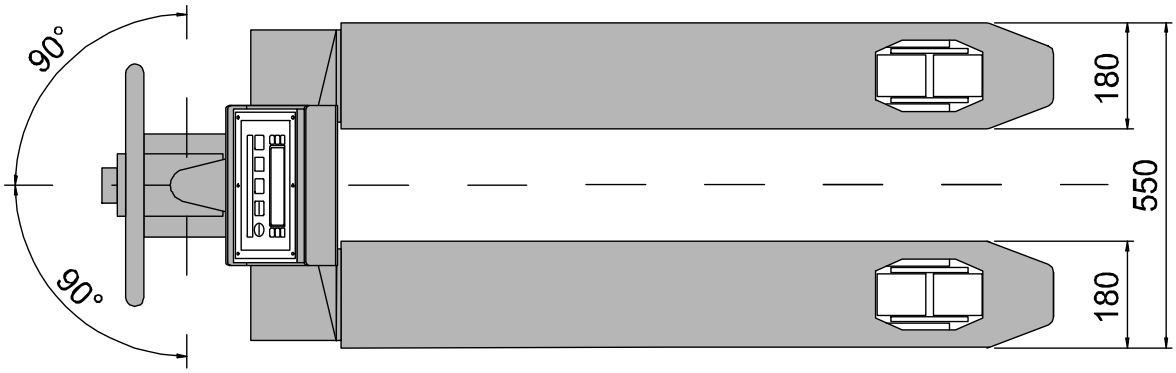
  The following warning label is shown on the junction box:

  AVOID ACCUMULATION OF ELECTROSTATIC CHARGES.
  CLEAN ONLY WITH WET CLOTHS OR ANTISTATIC PRODUCTS.

PALLET TRUCK

8. TPWATEX3GD DIMENSIONS (mm)





9. OPERATING INSTRUCTIONS

A pallet truck scale is an electronic weighing system directly installed on a pallet truck.
Must be used on even solid surfaces and driven always in the normal position.
Before loading, check the maximum load allowed by the pallet truck scale in use.
(refer to instruction plate X on the side of the pallet truck – reference drawing B).
The rudder has a double function, direction control and hydraulic lifting.
N.B. Lift up or pull down only when the pallet truck scale is in a standing still position.
N.B. Load only when forks are in the lowest position.

CONTROLS

The lever on the right side of the rudder can be put in 3 positions, like it shows on the plate "Y" in figure B.

POS. 1 – centre = **TRANSPORT** The rudder is completely free to allow driving control.
POS. 2 – down = **LIFT UP** By moving the lever downward the lifting mechanism is activated. Pushing down the rudder will cause the load to lift up.
POS. 3 – up = **PULL DOWN** By moving the lever upward the load will descend. When the lever is quickly moved upward, a special valve controls the descending speed of the load.

RUDDER ASSEMBLY (figure C)

1. Lock rudder (228) to hydraulic pump (200) with screws (27) that you can find in the box.
2. Lock chain (208) to lift down pedal (50). Rotate pedal to simplify the connection.

DESCENDING SPEED REGULATION (figure C)

1. Lift up forks to maximum height.
2. Set right lever to POS. 1 (centre).
3. Make sure the rudder (200) is in a vertical position.
4. Unscrew bolt (2) and turn clockwise the adjustable screw (48) until the forks **start** to descend.
5. Turn adjustable screw 1 ½ turn counter clockwise, then screw bolt (2).
6. You should be able to obtain a descending movement from every position of the rudder.

PARKING BRAKE (OPTIONAL)

If provided for, the rear wheel brake system can be fitted with a parking brake.
CAREFUL: use the brake only for parking the pallet truck and not to slow it down.

MAINTENANCE WARNINGS

Before you perform any service, make sure the pallet truck is in a condition of safety.
Never discharge any residue without taking the necessary environmental precautions.
Only perform the service described in this manual. Maintenance and repair jobs not included in this manual must be performed by authorised personnel only.
Serious injury could result from service or maintenance performed by unqualified personnel.
Never alter the safety level of the machine. Always use identical replacement parts.
Never remove or hide in anyway instruction plates and stickers.
Do not modify the pallet truck.
Do not use inflammable cleaners. Do not use direct jets of water. Do not pour liquids on the indicator.

OIL LEVEL (figure D)

Check oil level every 6 months. Only use hydraulic oil. No engine oil or brake oil.
Oil viscosity 30 Cst at 40°C . Quantity 0.3 lt.
With the fork in the lower position follow these steps:

1. Remove cover (204), o-ring (11) and cap (202).
2. If necessary add oil. Maximum filling level is 200mm below top of tank.
3. Turn on the pump to get air out of the hydraulic circuit.
4. Put cap (202), o-ring (11) and cover (204) back.

DAILY MAINTENANCE

To keep the pallet truck scale in good operating condition, **the operator must** perform daily these checkpoints:

- Check overall conditions.
- Check weighing scale.
- Check printer (if installed).
- Check pump.
- Check rollers and wheels.

SCHEDULED MAINTENANCE (MAINTENANCE PERFORMED BY QUALIFIED PERSONNEL ONLY)

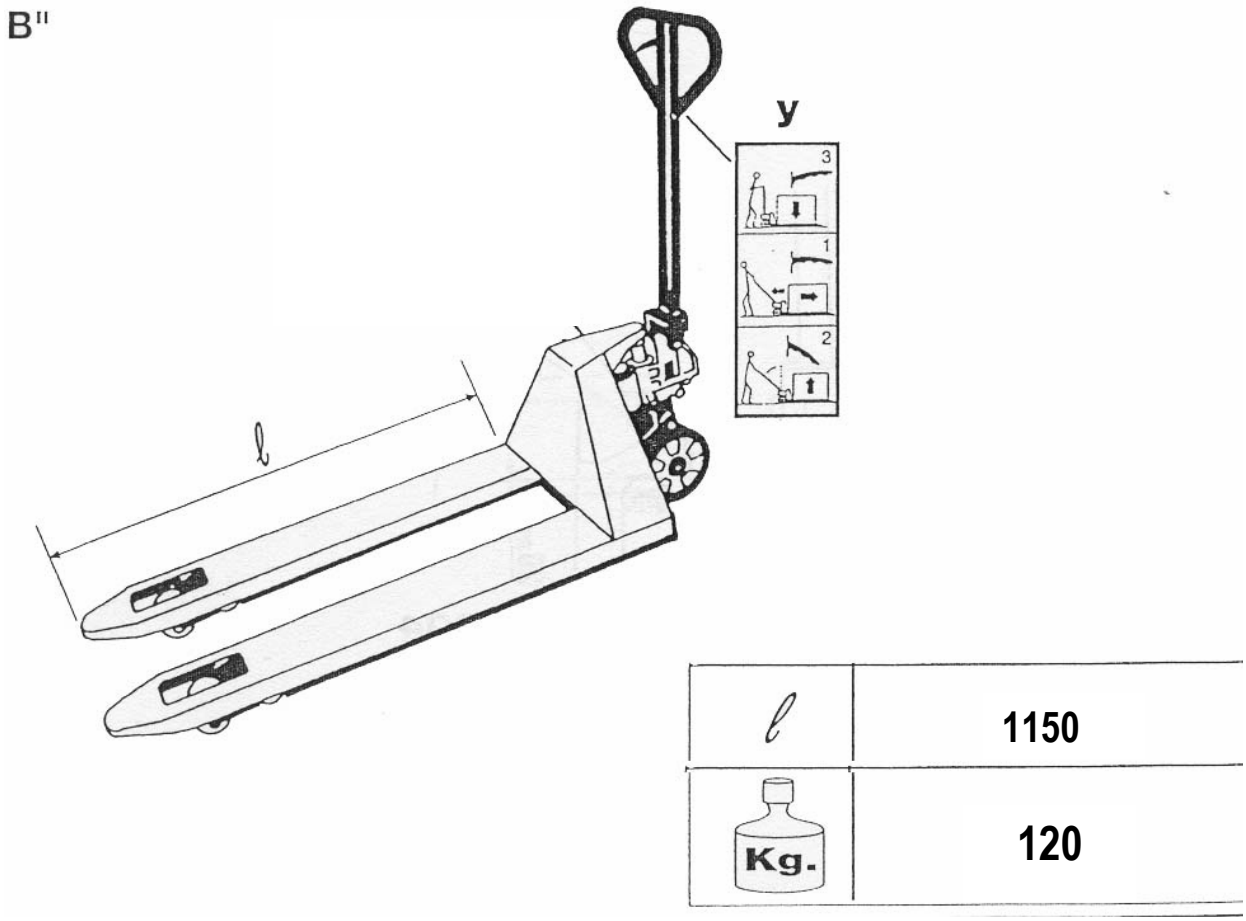
Please find below the programmed mainenance operations to be made by specialised personnel. Remember that before starting the maintenanc one should place the cart on a flat surface.

- Make sure to put the pallet truck scale on a flat and solid surface.
- Check that nothing is blocking the rollers.
- Grease rollers and wheels bearings: the lubrication with lithium grease is foreseen for every 6 months.
- Grease control lever on rudder.
- Check oil every six months. Fill up if necessary with IP46 hydraulic oil.
  N.B. If oil needs to be replaced, follow the necessary precaution and law requirements for the disposal of the exhausted oil.
  Replace rollers and wheels when necessary.
- The foreseen life of the bearings is the following:
  - For applications with a single roller: 900 hours of use;
  - For applications with double roller: 9000 hours of use;

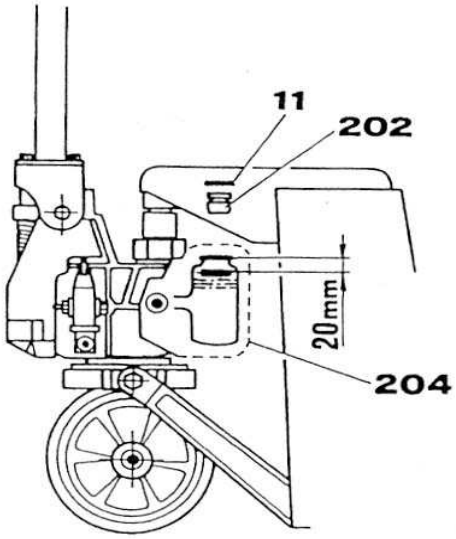
  Once reached this time period one should substitute these with bearing of the same model (SKF6204Z).

For any questions or problems check with an Authorised service Centre.

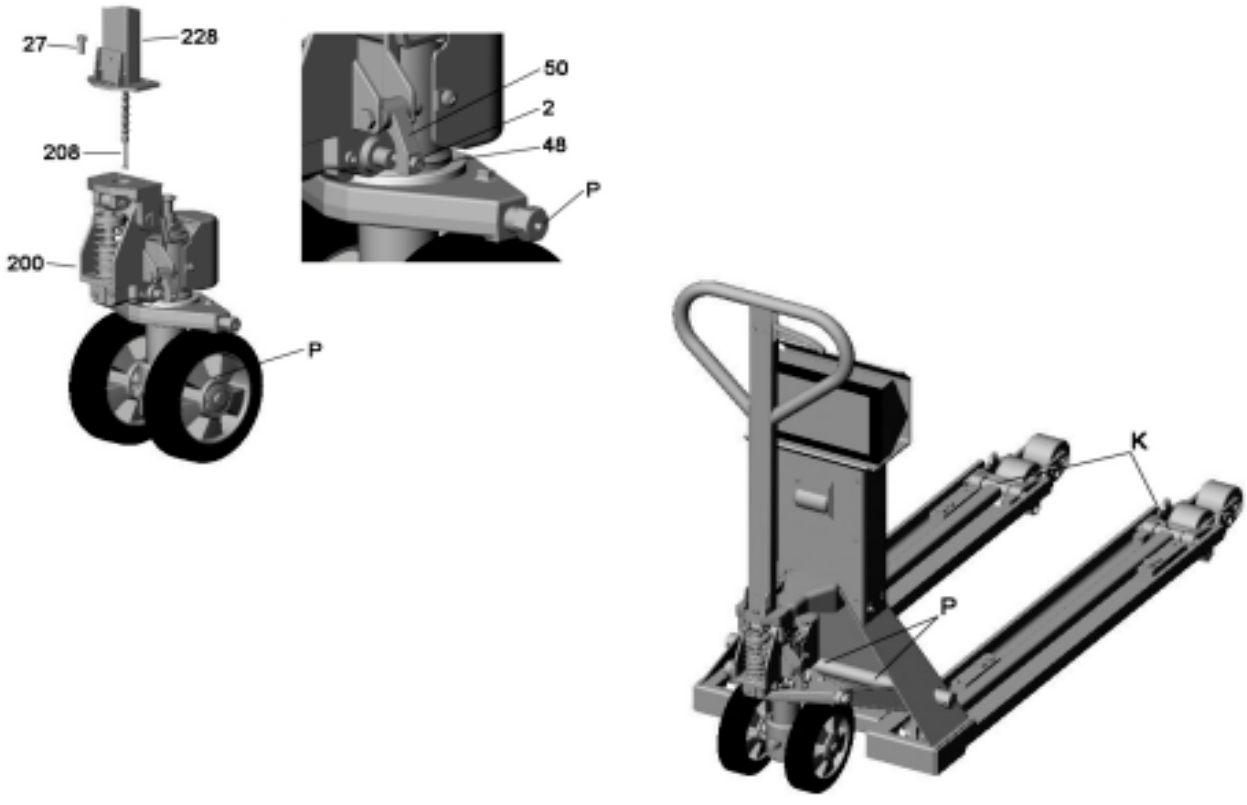
10. REFERENCE DRAWINGS



C"



D"



LUBRIFICATION POINTS

Ref. "**K**" fig. D needs silicon oil for food industry, expiry of 1 month.

Ref. "**P**" fig. D needs silicon grease for food industry, expiry of 2 months.

11. INSTRUMENT POWER SUPPLY

The instruments are powered with a 6Vdc extractable battery, rechargeable in safe zone.
The battery lifetime is 40 hours (max.) when used with 1 load cell, and 24 hours (max.) if connected to 4 load cells.

NOTE: ***It is advisable to completely recharge the battery (12 hours) in the first installation of the instrument; we RECOMMEND disconnecting the battery if the instrument is not going to be used for more than 30 days.***

BATTERY CHARACTERISTICS

Material	LEAD
Power	4,5 Ah
Output	6 V

THE BATTERY MUST ONLY BE REPLACED WITH AN ORIGINAL FROM THE MANUFACTURER.

11.1 BATTERY CHARGING

WARNINGS

- **WE ADVISED TO COMPLETERLY CHARGE THE BATTERY BEFORE INSTALLING IT IN THE INSTRUMENT.**
- **WHILE THE BATTERY IS CHARGER, THERE MUST ALWAYS BE POWER SUPPLY VOLTAGE. EVENTUAL MOMENTARY POWER SUPPLY INTERRUPTIONS CAN LENGTHEN THE RECHARGING TIME.**
- **THE BATTERY CHARGER MUST ALWAYS BE USED IN A SAFE AREA.**
- **THE BATTERY CHARGING MUST ALWAYS TAKE PLACE IN A SAFE AREA.**
- **THE BATTERY CHARGER MUST ONLY BY POWERED BY THE SUPPLIED MAINS ADAPTER.**
- **THE BATTERY SHOULD BE CONNECTED/DISCONNECTED ONLY IN A NON ATEX CLASSIFIED ZONE.**

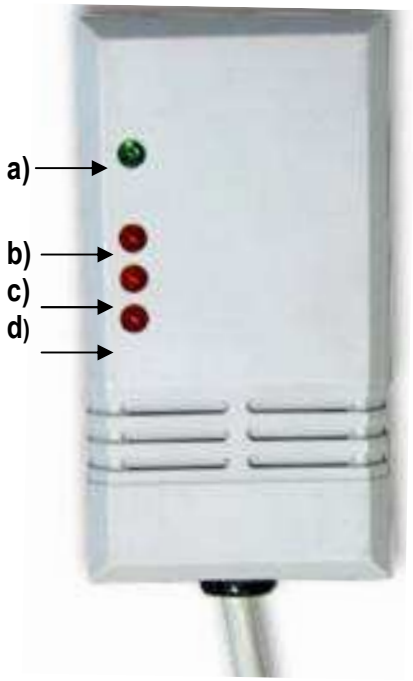
ANY RESPONSIBILITY FOR DAMAGES DERIVING BY THE UNOBSERVANCE OF THESE WARNINGS IS DECLINED

PROCEDURE:

1) Connect the battery charger to the battery.

2) Power the battery charger with its 12Vdc proper adapter supplied together with the battery charger.

3) The battery charger LEDs indicate the reached charge level:



LED	DESCRIPTION
a)	on, indicates the power supply voltage
b)	on, indicates the battery presence, in other words, the battery is connected correctly to the battery charger.
c)	on, indicates that the battery has made half the charge
d)	on, indicates that the battery is completely charged; this LED turns on about 10/12 hours after LED **c)** has turned on.

!! IMPORTANT !!

While the battery has charged, there must always be power supply voltage. Eventual momentary power supply interruptions can lengthen the recharging time.

Once the charging is completely made

4) remove the adapter from the battery charger

5) remove the battery charger from the battery

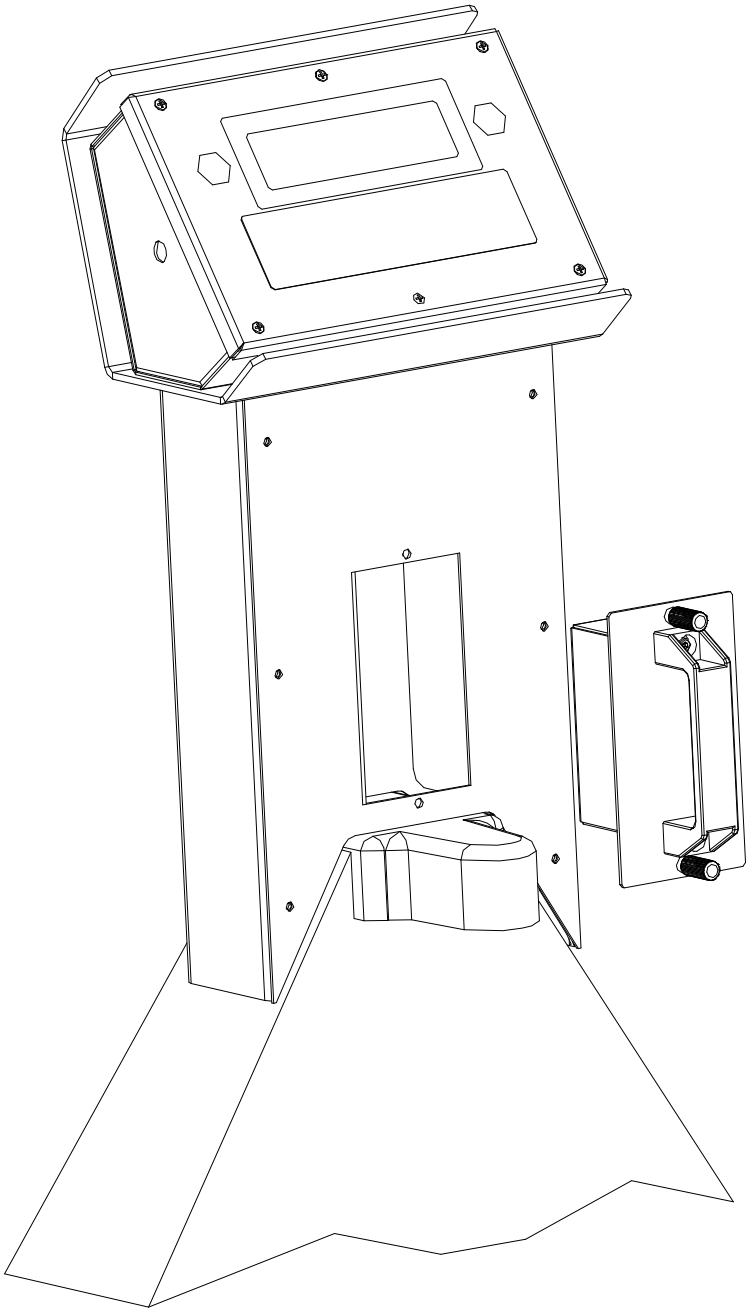
NOTES:

When the third pilot light is on, the battery charger is in a "charge maintenance" phase in which it can remain also for many days without the batteries getting damaged; it is advisable in any case to remove the battery pack as soon as possible.

While being charged both the battery charger as well as the battery pack are conditioned by the heat.

It is possible to charge the battery pack even when it isn't completely uncharged.
In any case it is advisable to have the battery pack become totally uncharged every 5/10 recharges, in order to improve the performance of the cells in the long term.

11.2 BATTERY INSTALLATION



To remove the battery from the column one should:

1) remove the screws

2) remove the battery connector from the power supply cable

To install the battery in the column one should:

1) connect the battery connector to the power supply cable

2) install the screws

WEIGHT INDICATOR

12. TURNING ON AND OFF

TO TURN ON the instrument press the C key until the indicator turn on; then release.
The display shows in sequence:
XX.YY is the installed software version.
bt XXX in which XXX is a number from 0 to 100 which indicates the battery level.
The indicator has an "auto zero at start-up" function: in other words it 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** parameter **(TECH.MAN.REF.).**

By pressing the **ZERO** key for an instant while the version is shown in the LED display, the indicator will show the following in this order:
CLoCK if there is the optional board with date and time.
02.01 in which 02 indicates the instrument type, 01 indicates the metrological software version.
XX.YY.ZZ is the installed software version.
DFW06 is the name of the installed software.
bt XXX in which XXX is a number from 0 to 100 which indicates the battery level.
-K- X.YY in which K identifies the type of keyboard: K=16-key keyboard.
X.YY is the installed software version.
After this, the programmed capacity and minimum division are displayed; then the instrument executes a countdown (self-check) e preriscaldamento and finally "hi rES" is displayed (in case of non approved instrument) or "LEGAL" and the calibration area (in case of approved instrument).

TO TURN OFF the instrument keep the C key pressed until the - Off – message appears on the display; then release the key.

13. FRONT PANEL KEYS AND INDICATORS

The front panel of the indicator is designed for quick but simple weighing applications. It consists of an LCD display with 6 digits 25 mm in height and a water-proof film keyboard with 16 numeric and function keys.
While weighing various multifunction symbols indicating the functioning status will turn on (see section 14 “SYMBOLS ON THE LCD DISPLAY”).

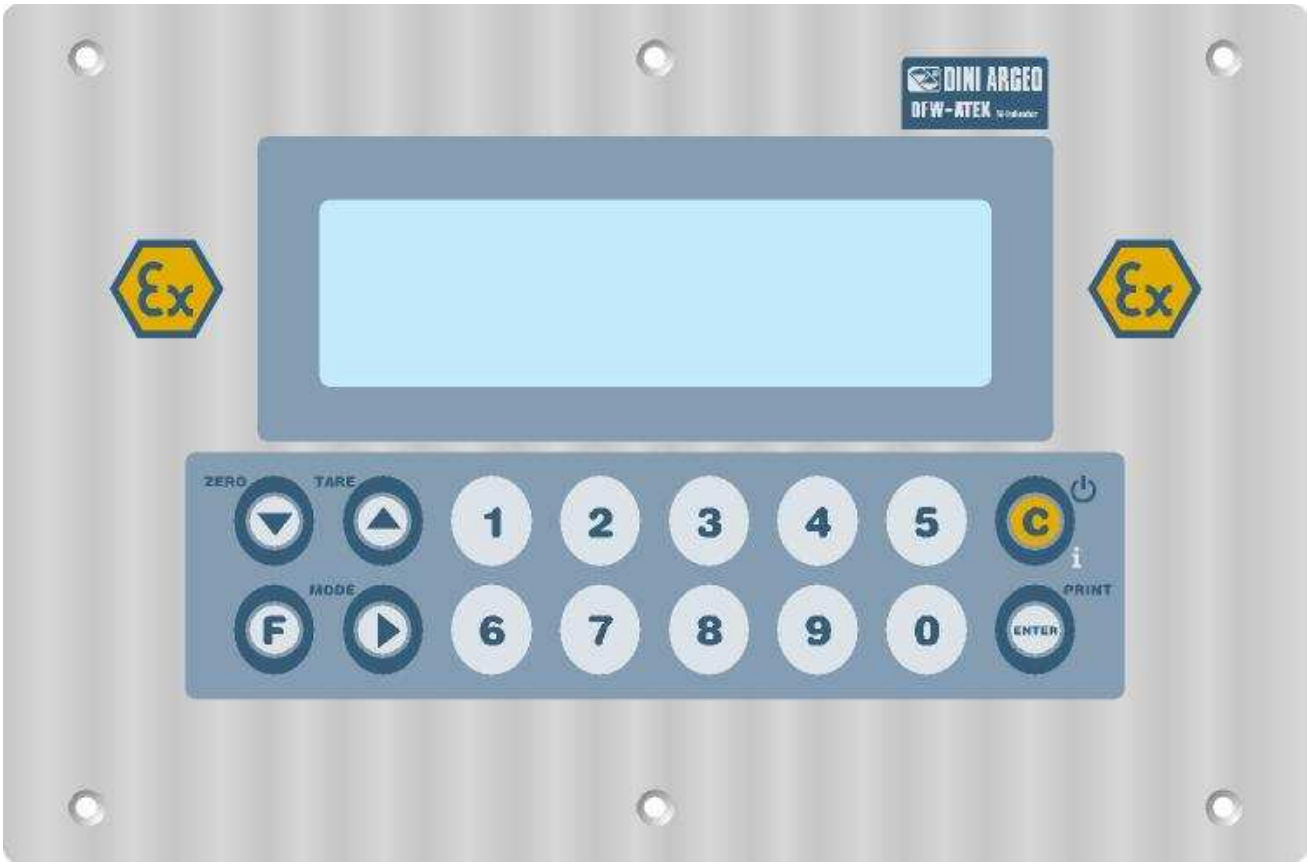


FIGURE 1

SCALE KEY	FUNCTION
ZERO 	- Zeros the displayed gross weight, if is within +/- 2% of the total capacity. - Cancels the negative tare value. - When entering numbers it decreases the digit to be modified.
TARE 	- If pressed for an instant it carries out the semiautomatic tare. - If pressed at length it allows entering the manual tare from keyboard. - Cancels the negative tare value. - In the numeric input phase it increases the digit to be modified.
MODE 	- It carries out a specific function of the operating mode set in the set-up environment. - 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. - In the numeric input phase, it confirms the entry made. - In the SET-UP, it allows to enter a step or to confirm a parameter within a step. - It transmits the data from the serial port dedicated to the printer.
	- It turns the instrument on and off. - In the numeric input phase, it quickly zeros the present value. - 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.
	- It allows to select the desired function.
	- In the numeric input phase it allows to enter the desired value.

14. 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.

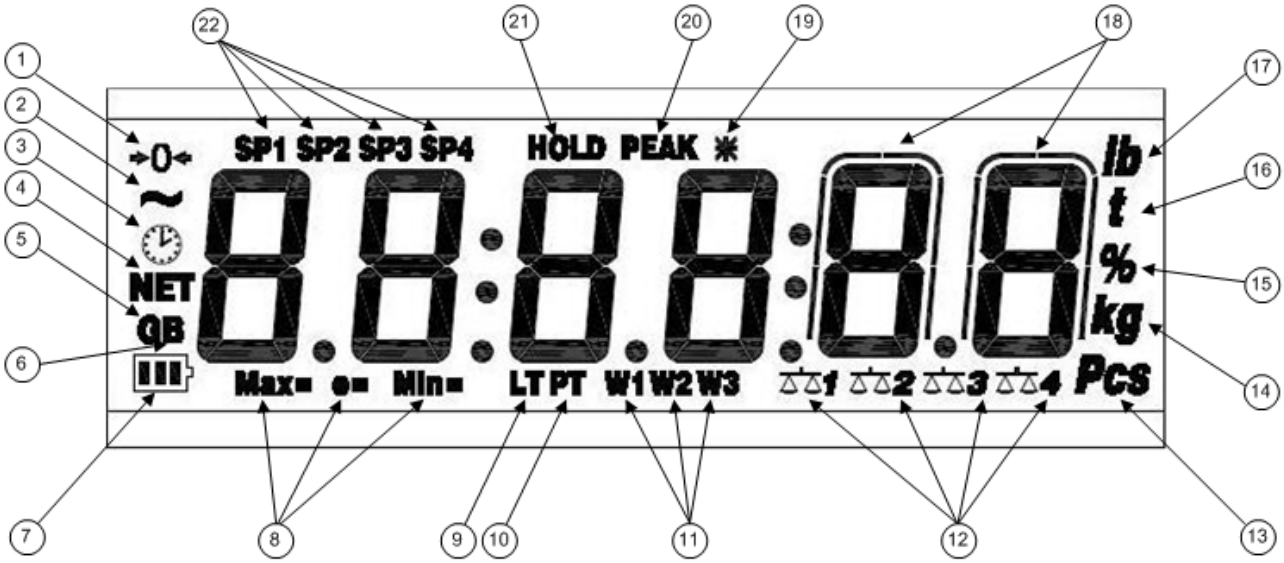
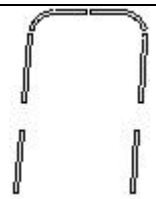


FIGURE 2 – LCD DISPLAY

NUMBER	SYMBOL	FUNCTION
(1)	→0←	The weight detected on the weighing system is near zero, within the interval of –1/4 ÷ +1/4 of the division.
(2)	~	The weight is unstable.
(3)		The time is being shown on the display, in the “HH:MM:SS” format
(4)	NET	The displayed weight is a net weight.
(5)	G	The displayed value is a gross weight, if the Italian or English language is selected in the print configuration
(6)	B	Indicates that The displayed value is a gross weight, if the German language is selected in the print configuration
(7)		Indicates the battery charge level: see section 15.5 - “BATTERY LEVEL WARNING”, **USER MAN.REF.**
(8)	MAX= MIN= e=	When viewing the metric information, it identifies the indicated capacity range. When viewing the metric information, it identifies the indicated minimum weigh range. When viewing the metric information, it identifies the indicated division range
(9)	LT	A locked tare is enabled
(10)	PT	A manual tare is active.
(11)	W1 W2 W3	The instrument is in the first weighing range. The instrument is in the second weighing range. The instrument is in the third weighing range.
(12)	1 2 3 4	Indicate the number of the slave being displayed, when in the MULTIBISCALE REPEATER functioning mode. In the other functioning modes scale nr. 1 is always shown.
(13)	PCS	The number of pieces is being displayed.
(14)	kg	Indicates the unit of measure in use(“kg” for kilogram, “g” gram).
(15)	%	Indicates the percentage of the weight on the scale (“Sample Weight Percentile” functioning mode).
(16)	t	Indicates the unit of measure in use (tons).
(17)	LB	Indicates the unit of measure in use (pounds)
(18)		These are displayed around the digits with higher sensitivity, when viewing the weight x 10.
(19)	*	Indicates that a key has been pressed.
(20)	PEAK	The PEAK function is enabled.
(21)	HOLD	The HOLD function is enabled.
(22)	SP1 SP2 SP3 SP4	The output nr. 1 (optional) has been enabled. The output nr. 2 (optional) has been enabled. The output nr. 3 (optional) has been enabled. The output nr. 4 (optional) has been enabled.

15. BASIC FUNCTIONS

15.1 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.

15.2 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 relative keys turn on.

NOTE: The semiautomatic tare will be acquire only if the weight is AT LEAST A DIVISION, STABLE (instability **~** led off) and VALID (in other words, the OVERLOAD condition should not be created).

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.

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

CANCELLING A TARE

One can manually cancel the tare value in different ways:

- 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 LOCKED/UNLOCKED/DISABLED TARE

Normally, when a tare value is entered (automatic, manual, or from storage) by unloading the scale plate, the display shows the tare value with a negative sign (LOCKED TARE). For one's convenience it is also possible to choose that the tare value cancels itself automatically each time that the scale is unloaded (UNLOCKED TARE); or disable the tare functions.

With the UNLOCKED tare:

In case of SEMIAUTOMATIC TARE the net weight, before unloading the scale, may also be 0.

In case of MANUAL TARE or FROM DATABASE the net weight before unloading the scale must be greater than 2 divisions and stable.

It is possible to carry out the selection also during the weighing if the tare has not been disabled, by pressing in sequence the **"F"+ "2"** keys: the display shows *"tA-L"* = BLOCKED TARE is selected; by pressing the same keys again the display shows *"tA-U"* = UNBLOCKED TARE is selected.

To disable the type of tare:

- Turn on the indicator, press the TARE while the firmware version is displayed (the display shows the "typE" menu).
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "FModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "tArE t" parameter.
- Press ENTER/PRINT to enter the parameter.
- With the ZERO or TARE keys select the diSAb (disabled tare) parameter.
- Confirm with ENTER/PRINT.
- Press the C key many times until the display shows the message "SAVE?".
- Press ENTER/PRINT to confirm the changes made or another key for not saving.

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

15.3 LIMITATION OF THE TARE FUNCTIONS

With approved instrument, it is possible to limit the tare functions, selecting: **SEtuP >> d.SALE >> yES (TECH.MAN.REF.)** the tare operations will have the following specifications:

SCALE CAPACITY	FUNCTIONING
< 100kg	All the tare functions are disabled
≥ 100kg	- The SEMIAUTOMATIC TARE value can not be modified with a manual tare or from database. - The manual tare or from database can be entered or modified only with an UNLOADED scale. - It's possible to cancel the tare value only with an UNLOADED scale

With approved instrument, the **d.SALE** step is not displayed.

15.4 AUTO POWER OFF FUNCTION

It is possible to automatically turn off the indicator (from 1 to 255 minutes), or disable it; the auto power off takes place when, **with unloaded scale,** the weight has not been moved or a key has not been pressed for the time set: the display shows the "- oFF – " blinking message and an acoustic signal is emitted; after this the indicator turns off.
For the setting, follow the procedures 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 ahead through the parameters) or TARE (to scroll backwards) until one finds the "FModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "AutoFF" parameter.
- Press ENTER/PRINT to enter the parameter.
- 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, one will be asked to enter the number of minutes after which the indicator should turn off: enter a number between 1 and 255 and confirm with ENTER/PRINT.
- Press many times the C key until the display shows "SAVE?".

Press ENTER/PRINT to confirm the changes made or another key for not saving.

15.5 BATTERY LEVEL 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 charge level is shown in the weighing phase by the battery symbol:

-  : battery is charged.
-  : battery is partially charged.
-  : battery is discharged: connect the indicator to the mains for the recharging. Furthermore, for a few seconds the "Low.bat " message appears on the display (voltage under 5,9 V).

RECHARGING PHASE:  …

RECHARGE IS COMPLETED: 

NOTES:
- While recharging, the instrument can be used as usual.
- The instrument automatically turns off when the voltage goes below 5,8V.
- It''s possible to view the recharge percentile of the battery by pressing the **ZERO** key upon start-up (see section 12 – "TURNING ON AND OFF").

15.6 "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.
Central dashes are shown on the LED display, and at regular intervals of about 5 seconds, an error sound signal is emitted.
The activation of the tilt alarm has a delay of about three seconds from the detection of the exceeding inclination.
See the electrical connection scheme **(TECH.MAN.REF.)** for the connection of the device.

15.7 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 which is up to 3000 divisions, improving in this way the first range division in the dual range and the first two ranges in the triple range.
For example, with a 10 kg cell platform 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 the cell used for the approval in a single range.

The multirange functioning is shown by the turning on of the relative LED which identifies the range in which one is operating; 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 made during the indicator's calibration (**TECH.MAN.REF.).**

15.8 DATE/TIME ADJUSTMENT (OPTIONAL)

The indicator can be fitted with the date/time option; in this case, the "CLoCK" message is shown when instrument is turned on. To set the date/time follow the procedure below:

- Press in sequence the F and 8 keys: in this order one will be asked to enter the day, month, year, hour, and minutes. The entry of each parameter must be confirmed with ENTER/PRINT.
- Press the C key many times until the message "SAVE?" appears on the display.
- Press ENTER/PRINT to confirm the changes made or another key to not save.
- **The "CLoCK" parameter is not displayed if there is no date/time option.**

15.9 "SCREEN SAVER" FUNCTION (OPTIONAL)

If the indicator is fitted with the date/time function, it is possible to enable the "Screen Saver": after a programmable time (from 1 to 255 minutes) with the scale unloaded, the time is shown on the display, in the "HH:MM:SS" format and the clock symbol () is enabled. As soon as a weight variation is detected, or a key is pressed, the indicator returns to viewing the current weight.
To set the function:

- 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 ahead through the parameters) or TARE (to scroll backwards) until one finds the "FModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Press ZERO many times (to scroll forwards through the parameters) or TARE (to scroll backwards) to find the "SCr.SAV" parameter.
- Press ENTER/PRINT to enter the parameter.
- With the ZERO or TARE key select the possible options: "no" (disabled), "YES" (enabled).
- Confirm with ENTER/PRINT; if one has selected "YES", one is asked to enter the number of minutes after which the indicator should show the time: enter a number between 1 and 255 and confirm with ENTER/PRINT.
- Press the C key many times until the display shows the message "SAVE?".
- Press ENTER/PRINT to confirm the changes made or another key to not save.

NOTE: the "SCr.SAV" parameter is not shown if there is no date/time option.

15.10 REENABLING THE INDICATOR FUNCTIONS

While using the indicator, it is possible to incur into the "**no.0.unS"** error shown on the display along with an acoustic signal; this means that the function which one wants to carry out must be reenabled (in order to avoid unwanted 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).
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "FModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Press ZERO many times (to scroll forwards through the parameters) or TARE (to scroll backwards) until one finds the "rEACt" parameter.
- Press ENTER/PRINT to enter the parameter.
- 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 changes made or another key to not save.

15.11 STORED TARE MEMORY VALUES

It's possible to store up to **30 tare memory values,** identified by the location numbers 1 to 30, which the user can recall when needed.
To insert or modify a tare value:

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

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

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 tare value location in memory (01-30) and **ENTER/PRINT**: the tare will be enabled.

15.12 KEYBOARD LOCK

It is possible to disable the keyboard functions in order to avoid accidental pressing of the keys:

- Press in sequence the **F** and **0** keys: the display shows "LoC.kEY" for an instant (LOCKED KEYBOARD).
- If in this status a key is pressed the message "LoCkEd" is shown on the display.
- To UNLOCK the keyboard, press again the **F** and **0** keys: the display shows "unL.kEY" for an instant (UNLOCKED KEYBOARD).

NOTE: The keyboard may be disabled also by closing an input, if programmed, of the optional expansion board (also in the 5-key indicator): refer to the "inPutS" parameter of the set-up environment (**TECH.MAN.REF.)**; in this case however when the keys are enabled or disabled,, the message "LoCkEd" does not appear on the display and upon pressing a key the display shows "LoCkin" for an instant.

16. 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, IN/OUT, MULTISCALE REPEATER, ALIBI, +/- TOLERANCE CHECK, SAMPLE WEIGHT PERCENTAGE, DISPLAY WITH SENSITIVITY X 10, FREEZING OF THE WEIGHT ON THE DISPLAY, PEAK DETECTOR, HORIZONTAL TOTALIZER, VERTICAL TOTALIZER, PIECE COUNTING.
Each functioning mode foresees the turning on of various function pilot leds, described in detail in the “KEYS AND INDICATORS OF THE FRONT PANEL” and “SYMBOLS ON THE LCD DISPLAY” sections.

To set the operating mode, carry out the following procedures:

- Turn on the scale, press the ZERO or TARE key during the countdown (the display shows the “FmodE” menu).
- 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 possible options:

Std	kg / lb conversion
ntGS	net weight / gross weight conversion
StPG	Set point on the GROSS weight
StPn	Set point on the NET weight
inout	Input / output weighing
MAStr	Weight repeater
ALibi	Alibi memory
ChECK	+/- Tolerance Check
PErC	Sample weight percentage
UiSS	Sensitivity times ten
hLd	Hold
PEAK	Peak detector
tot o	Horizontal totalizer
tot S	Vertical totalizer
Coun	Counting

- Confirm with ENTER/PRINT; if one has selected the inout, MAStEr, ChECK, PErC., tot or, tot S or Coun mode, one will be asked to select one or more operating parameter; refer to the specific functioning mode section for the relative 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 not save.

16.1 UNIT OF MEASURE / POUNDS CONVERSION (Std)

By pressing "MODE" key the weight conversion between the scale unit of measure and lb is made 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 to the scale unit of measure.

16.2 NET/GROSS SWITCH (ntgS)

If a tare is set by pressing the MODE key, for about 3 second interval, the gross weight is displayed.

16.3 SET POINT ON THE GROSS WEIGHT (StPG)

By selecting this functioning mode, in the normal scale status, one enables the function of the outputs on the GROSS weight; with the optional boards, it is possible to use up to 4 outputs.
In the **outPut** menu of the SET-UP environment **(TECH.MAN.REF.),** one sets the functioning mode for each output used: none, with hysteresis (enabling and disabling set point) without hysteresis (single set point).
Furthermore it is possible to set the status of the outputs (normally open or normally closed), or the type of check

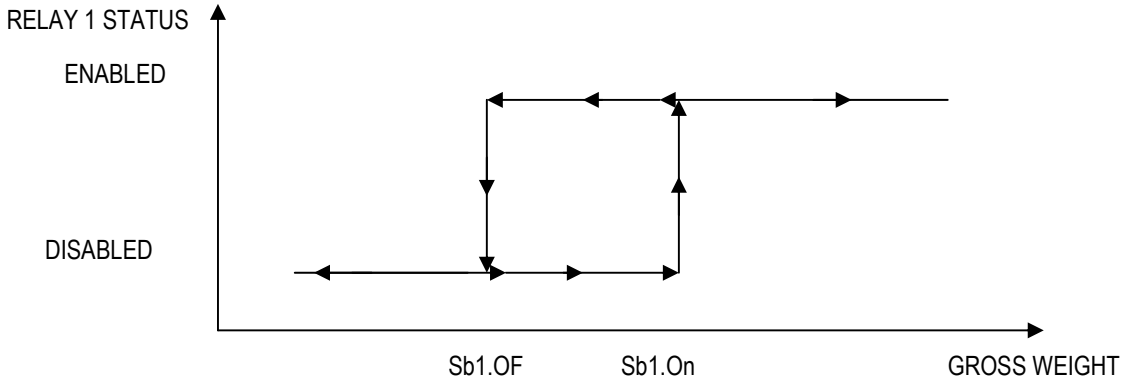
(direct or weight stability).

MODE WITH HYSTERESIS

One enters two SET POINTS for each output: a DISABLING one, which, when the gross weight is lower than it, it disables the concerned output; and an ENABLING one, which, when the gross weight is equal or greater than it, it enables the concerned output.

By keeping the ENTER/PRINT key pressed for about 3 seconds one enters the DISABLING and ENABLING SET POINT values, only for the configured outputs:

- The display shows " S1 oF " (DISABLING output 1 SET POINT): press ENTER/PRINT to enter the Step.
- Use the MODE key to choose the digit to be increased (BLINKING DIGIT), the scrolling of the digits goes from left to right.
- Decrease or increase the value using the ZERO or TARE keys.
- When finished entering the values, confirm with ENTER/PRINT.
- The display shows " S1 on " (ENABLING output 1 SET POINT): enter the weight value like in the preceding SET POINT and confirm with ENTER/PRINT.
- With the C key, one quickly zeros the set point value.
- In the same way go ahead with the "Sb2.oF", “Sb2.on”, “Sb3.oF”, “Sb3.on”, “Sb4.oF”, “Sb4.on” (if present).
- Once finished the programming of the set points, one should exit with the C key to return to weighing.



NOTES

- If the relay functioning mode has not been configured, the prolonged pressure of the ENTER/PRINT key **has no effect.**
- The DISABLING SET POINT must be equal or less than the ENABLING one;
  if in the DISABLING SET POINT one enters and confirms a value greater than the ENABLING one, the instrument will automatically set the same value in the ENABLING step and the anomaly is indicated through the “ModiFY” message at the exit of the configuration MENU of the SET POINTS.
- If in the ENABLING SET POINT one enters a value lower than the DISABLING one, the instrument does not allow to confirm.
- if one enters a set point with a number of divisions not coherent with the set minimum division it will be rounded up to the multiple of the minimum division closest to it.
- The 0 value is valid for the enabling and the disabling set points and just the set points greater or equal to 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 start-up, the relays are managed from when the weight is displayed and these take on the configuration set in the set-up environment. These are not managed inside the technical set-up.

The tare operations are active.

MODE WITHOUT HYSTERESIS

It is the same as the functioning mode with hysteresis, except that one enters just one SET POINT value (therefore the enabling threshold coincides with the disabling threshold).

16.4 SET POINT ON THE NET WEIGHT (StPn)

By selecting this functioning mode, in the normal scale status, one enables the function of the outputs on the NET weight; the entry of the SET POINTS and the functioning notes are the same as the gross weight mode.

16.5 INPUT/OUTPUT (in out)

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.
Once the in/out mode has been selected, the message "tyPE" is shown and one is asked to select with ENTER/PRINT the totalizing mode:

- **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:**
  WEIGH 2 Second weight with unit of measure.
  NET Difference without sign between WEIGH 1 and WEIGH 2 with unit of measure.
- **in.out input/output:**
  INPUT First weight with unit of measure.
  OUTPUT Second weight with unit of measure.
  NET Zero weight with unit of measure >> if WEIGH 1 = WEIGH 2

  INPUT NET >> if WEIGH 1 > WEIGH 2
  Difference without sign between INPUT and OUTPUT with unit of measure.

  OUTPUT NET >> if WEIGH 1 < WEIGH 2
  Difference without sign between INPUT and OUTPUT with unit of measure.

PROCEDURE:

- With key 1 of the indicator), one acquires the first weight, on the display is shown " - - 1 - - -" accompanied by a prolonged beep;
- Press key 2 of the indicator), one acquires the second weight, and on the display is shown "- - 2 - - -" accompanied by a prolonged beep.
- **NOTE:** The acquisition of the second weight is made 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 section 15.10 "REENABLING OF THE INDICATOR FUNCTIONS".

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 accompanied by a prolonged beep. Press ENTER/PRINT to confirm the cancelling of the first acquired weight or another key to not confirm.

NOTES:

- The weight is acquired if:
  - With a NON APPROVED scale one has a STABLE weight and GREATER than 0.
  - With an APPROVED scale one has a STABLE weight and GREATER than 20 divisions.
  - 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 section 15.10 "REENABLING OF THE INDICATOR FUNCTIONS".
- The tare operations are DISABLED.

16.6 MULTISCALE REPEATER (MAStr)

The system is made up of one or more indicators (up to 4, called **SLAVES**), connected to one or more weighing system, which communicate with another indicator (called **MASTER**) which acts as weight repeater, on which it is possible to view the weight of each single scale or the sum of the weight detected by the single scales.
In the MASTER, by selecting with ENTER/PRINT in this operating mode, one is asked to enter the number of the SLAVES which one wants to use: for an instant "nuMSL" is displayed; then, one enters the number (between 01 and 04).
In the SLAVES, instead, one needs to set a different functioning mode than the "MAStr" and enter a code (between 01 and 04, to identify each single SLAVE) in SEtuP >> SeriAL >> CoMPC >> PCModE >> 485 **(see set-up environment, TECH.MAN.REF.).**

NOTES:
The SLAVE indicators must be of the same model as the MASTER indicator.

FUNCTIONING
When turned on, the MASTER predisposes itself for the connection to the SLAVES present ("ECo n" message appears, in which n is the SLAVE number which is to be detected): when at least one SLAVE is detected, it positions itself on the one with the lowest 485 address.

- By pressing the MODE key various times:
  - if just one slave is configured this is repeated also on the active slave in that moment;
  - if various slaves are configured one goes from SLAVE to SLAVE, ordered by 485 addresses: the display shows "SCA n" (in which n is the SLAVE number); after this, the weight transmitted by the selected SLAVE is displayed. In this mode, about every 10 seconds, the message "SCA n" appears, indicating the meaning of the shown data and in which n is the number of the active scale in that moment.

  By pressing the ZERO, TARE and ENTER/PRINT keys on the MASTER, these are repeated also on the active SLAVE in that moment.
  Every 10 seconds, the message "SCA n" appears, indicating the meaning of the shown data and in which n is the number of the active scale in that moment.

  To view the sum of weights present on all the scales, keep the MODE key pressed for a few seconds: the display shows "SUM" and then the sum of the net weight present on the scales.

  In the display of the sum:
  - the "SUM" message appears about every 10 seconds and it indicates that the sum of the weights present on the scales is being displayed
  - The reference unit of measure is that of the connected SLAVE with the lowest address; if the other weights have different units of measure, these are automatically converted.
  - 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 slaves is in underload or overload), the segments in the central part of the display are turned on.
- Furthermore by pressing the numeric keys:
  - if just one slave is configured this is repeated also on the active slave in that moment;
  - if various slaves are configured, it is possible to directly select the number of the desired SLAVE through the relative numeric key of the keyboard (**I.E.:** MASTER → press the 1 key→ selection of SLAVE 1).

KEY	SLAVE
	Select slave 1
	Select slave 2
	Select slave 3
	Select slave 4

WARNING:
- To carry out the weight repeater function it is sufficient that just one SLAVE instrument in the system be turned on. 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 the same display the "ECo n" message is displayed in which n is the address number of the SLAVE with which one is trying to communicate.
- If there are various slaves, in no case is it possible to transmit the functionality of the **MODE** key and the numeric keys 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 isn't possible to transmit the functionality of the **ZERO**, **TARE**, **ENTER/ PRINT** and **C** keys to

the SLAVES.
- If the connection is lost with the SLAVE which is acting as a repeater, the MASTER will try to reconnect it; if after about a second this does not happen, it connects with the following SLAVE.
- If the connection is lost with the SLAVE 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.
- If the automatic switch off has been enabled in the MASTER, after about 5 minutes that one is connecting with the SLAVES (in other words the ECo-n message appears on the display), it turns off.
- By pressing the **C** key at length, this is repeated on the active slave; to turn off the master indicator one should make sure that one is in the slave detection phase ("ECo n" appears on the LED display, in which "n" is the number of the SLAVE which one is trying to detect)

16.7 ALIBI MEMORY (ALibi) (OPTIONAL)

The alibi memory allows to file the transmitted weight values in the computer for data processing and/or integration. The filed values may then be recalled from the PC serial line or directly on the indicator's display for a following check.

The storage of a weigh takes place either 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 weigh.

The storage of a weigh in the alibi memory is possible only if the weight is stable; (it can not be in underload or in overload) and the gross must be equal or greater than zero. In case these conditions are not respected:
_in the response to the PID serial command there will be "NO" instead of the ID;
_there is no transmission in the case that the ENTER/PRINT key is pressed.
When one presses the ENTER/PRINT key, the weight and the ID is transmitted and the display shows the "tr.id" message for about 2 seconds.

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 weigh 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 weigh is the following:
"PIDST,1, 1.000kg, 1.000kg,00126-131072"

and 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 (in other words not in under load nor in overload), if the gross weight is equal or greater than zero and without the TILT alarm (see paragraph 15.6).

The storage of the weigh by pressing a key is possible only if the function is active (or passage 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.**, and minimum weight of 20 divisions with approved instrument,).
If these conditions are not respected:

- in the response to the PID serial command one has "NO" in the place of the ID.
- there is no transmission if **PRINT** has been 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,LLLLLLLLLLUU,YYTTTTTTTTTTUU,(ID | NO)<STX>.
See the following section “Serial commands” for the string description.

NOTES:
- With approved or not approved instrument, the storage of the weigh through the PID serial command is always possible for all the weighs from 0 to full range value.

READING OF THE WEIGHS CARRIED OUT
In order to read the information relative to the weighs carried out:
- Press the **MODE** key.
- The message "rew.id" appears; now one should enter the rewriting number (from 00000 to 00255) and press ENTER/PRINT.
- The message “ id “ appears; now one should enter the weigh number (from 000000 to 131072) and press ENTER/PRINT.
- Now it is possible to view on the display the weigh information in sequence, and scroll through it with the ZERO key (ahead) or the TARE key (backwards):
  - "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 and then the gross weight value).
  - Tare weight (for about a second the message "tArE" appears or "tArEpt" if it is a manual tare; then the tare value appears).
- Press C to return to weighing.

NOTES:
- The alibi memory can store up to 131072 weighs; then the rewriting takes place from the beginning.
- If the alibi memory is empty, when the MODE key is pressed the message “EMPTY” appears for about a second, an error acoustic signal is enabled and one returns to weighing.
- If the entered ID is not valid, in other words, if there is no stored weigh relative to the entered ID, the message " no id" appears and an error acoustic signal is enabled and one returns to weighing.

INITIALISATION OF THE ALIBI MEMORY
It is possible to cancel all the weighs 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 weigh.

The initialisation is possible only with a non approved instrument.

SERIAL COMMANDS

Besides the commands described in the “11.4 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>**

And

[II]PIDD<CRLF> or **<ESC>[II]PIDD<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,YYTTTTTTTTTTUU,(ID | NO) <CRLF>

Instrument response to the **<ESC>[II]PID<STX>** command:
<ESC>[II]PIDSS,B,LLLLLLLLLUU,YYTTTTTTTTTTUU,(ID | NO)<STX>

Instrument response to the **[II]PIDD<CRLF>** command:
[II]PIDSS,B,LLLLLLLLLUU,YYTTTTTTTTTTUU,(ID | NO),(dd/mm/yybbhh:mm:ss|"NO DATE TIME")<CRLF>

Instrument response to the **<ESC>[II]PID<STX>** command:
<ESC>[II]PIDSS,B,LLLLLLLLLUU,YYTTTTTTTTTTUU,(ID | NO),(dd/mm/yybbhh:mm:ss|"NO DATE TIME")<STX>

In which:[II]	485 address (only when transmitting in 485 mode)	
SS	OL" (weight in overload) or "UL" (weight in underload) 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 weigh number (6 digits, from 000000 t0 131072).
dd/mm/yy	Date in the "dd/mm/yy" format (only with PIDD command).	
bb	2 space characters, 32 decimal ascii character (only with PIDD command).	
hh:mm:ss	Time in the "hh:mm:ss" format (only with PIDD command).	

In the case in which the gross weight is negative or unstable, the weight is transmitted but not the ID; “NO” is in its place. In these cases there is no storage in the alibi memory.
In the case in which the optional Alibi memory board is not detected, the weight is transmitted but not the date and time; “NO DATE TIME” is in its place.

WEIGH READING
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
	TTTTTTTTT	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 effective
[II]ALDLNO <CR o CRLF> if the cancellation has not worked
NOTE: During the cancellation, the display shows "WAit" and all the indicator functions are "frozen".

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

16.8 +/- 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 relais of the 2 expansion boards (optionals), on the basis of a freely programmed TARGET WEIGHT, a LOWER TOLERANCE value, an UPPER TOLERANCE value, and an 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, one 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 relative default parameters.
By setting the threshold for activating the functioning mode, if the weight is under the set threshold, 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. With the keyboard enter the desired target; with **C** one quickly zeros the entered value; by pressing **C** again one cancels the entry and returns to weighing.
- Confirm with **ENTER/PRINT**: the display shows first "t.Min" then "000000" or the T1 lower tolerance previously used. With the keyboard enter the desired lower tolerance; with **C** one quickly zeros the entered value; by pressing **C** again one cancels the entry and returns to weighing.
- Confirm with **ENTER/PRINT**: the display shows first "t.MAX" then "000000" or the T1 upper tolerance previously used. With the keyboard enter the desired upper tolerance; with **C** one quickly zeros the entered value; by pressing **C** again one cancels the entry and returns to weighing.
- Confirm with **ENTER/PRINT**: the display shows first "thrESh" and then "000000" or the enabling threshold used previously. Through the keyboard enter the desired enabling threshold; by pressing **C** one quickly clears the entered value, while by pressing again **C** one cancels the entry and returns to the weighing mode.
- Confirm with **ENTER/PRINT**: the display shows "StorE" for an instant; after this it returns to weighing.

NOTE: If the entered value is wrong (i.e. tolerance value greater than the target or target greater than the scale capacity) the indicator emits a prolonged sound and 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	Enable Relay
Weight < Target - t.Min	_undEr	reL.b.1
Target - t.Min ≤ Weight ≤ Target + t.MAX	- oK	reL.b.2
Weight > Target + t.MAX	¯oVEr	reL.b.3
Weight ≥ t.Min		reL.b.4

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.
- 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 relays of the 2 expansion boards (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, ABUNDANT in comparison to the TARGET WEIGHT. Furthermore it is not possible to set the functioning mode of the relays, 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 through the serial line, see "Serial command format", **TECH.MAN.REF.**

16.9 SAMPLE WEIGHT PERCENTAGE (3.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, one is asked to set of:

- **"WAit.t" : sampling interval.**
  Setting of the sampling time (in seconds, with a decimal); greater is the time set and more precise will the sampling be.
  - Set the desired time.
  - Confirm with ENTER/PRINT.
  - Press many times the C key until the display shows the message "SAVE?".

  With the indicator fitted of a 17-key keyboard, by pressing the F and 7 keys, it's possible to change the sampling time also in the weighing mode. If the entered value is confirmed, it will substitute the one in the set-up environment.

PROCEDURE

1) Place the empty container on the scale and press TARE to tare it.
2) Check that the zero is on the display 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 sample size.
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 will show "SAMPL". After a few instants the display will show the percentage selected 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 one switches from the display of the percentage to the display of the net weight and vice versa.
9) **To carry out a new sampling**, press at length the MODE key and repeat the operations as describe in point **3).**

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

It may happen that during the sampling phase the weight is unstable; the "Er.Mot" is shown remaining for about three seconds. One should therefore 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 indicator)
It is possible to insert directly by keyboard any percentage, different from the ones proposed 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 a quantity already stored.
- Modify and/or enter the quantity (max 3000.0) using the numeric keys.
- Follow the operations describe in point **5)** in the **PROCEDURE** section.

16.10 DISPLAY WITH SENSITIVITY X 10 (VISS) (TO BE USED IN TESTING DURING THE CALIBRATION)

By pressing the MODE key one switches from the weight display with normal sensitivity to a sensitivity ten times greater; in fact, one will note that the last digit on the right of the display will have a sensitivity equal to the scale's division divided by 10.

TAKE NOTE: In case the instrument is LEGAL FOR TRADE, when "MODE" is pressed, the sensitivity times 10 is displayed for five seconds after which the instrument returns to standard weight displaying. Furthermore, if the direct sales has been configured in the **SEtup >> dSALE** parameter, **TECH.MAN.REF**, this displaying is possible only with if the capacity is equal or less than 100 kg (220 lb).

16.11 HOLD: FREEZING THE WEIGHT ON THE DISPLAY (HLd)

By pressing MODE, the value of the weight is held on the display, and the display shows HoLd alternately with the weight held value (every 5 sec). To release the weight value on the display, press MODE key again.

16.12 PEAK WEIGHT PEAKS DETECTION (PEaK)

It is possible to use the instrument to store the maximum weight value measured during the weigh (PEAK), useful to measure, for example, the breaking load of the materials.
By pressing the **MODE** key, the peak mode is enabled; on the LED display the maximum weight reached will be displayed, alternated with the message PEAK every 5 sec.
The test terminates by pressing the **MODE** key again or when the weight peak surpasses the maximum capacity of the instrument (for an instant PEAk.oF is displayed and the indicator returns to standard operation)

SETTING SAMPLING TIME
It is possible to set the minimum time period of the peak impulse beyond which the measuring is accepted. This time is set by keeping "ENTER/PRINT" pressed for a few seconds when the indicator is not in the peak mode: the message **-tP-** appears on the display followed by a number which corresponds to the minimum time length of the impulse expressed in hundredths of seconds.
By pressing "ZERO" or "TARE" the following settable values are proposed: 1, 2, 3, 4, 5, 10, 20, 50, 100 and 127; press "ENTER/PRINT" to confirm the desired value, (the indicator will return to weighing).
The default value is 2.

TABLE OF OPERATING PARAMETERS IN PEAK MODE

LENGTH	SAMPLINGS PER SECOND	ACQUIRED VALUES	MEDIATED VALUES
1	400	1	1
2	200	1	1
3	100	1	1
4	100	4	2
5	50	4	2
10	25	4	2
20	12	4	2
50	6	4	2
100	6	8	2
127	6	12	2

16.13 HORIZONTAL TOTALIZER (Sum of lots) (tot 0)

TYPE OF TOTALISATION (NORMAL, FAST, AUTOMATIC)
Once the totalizer operating mode is selected, both horizontal and vertical, one is asked to set the type of totalization: normal (t.norM), fast (t.FASt) or automatic (Auto); with ZERO or TARE one changes the parameter; with ENTER/PRINT one confirms.

- In the normal totalisation, for each accumulation operation there is the display of the weigh number and the net weight total.
- In the fast one, just the display of the "-tot-" message appears on the display.
- In the automatic one, there is the automatic acquisition of the stable weight; therefore the display of the "-tot-" message on the display.

MAx.tot: NUMBER OF CONSECUTIVE TOTALISATIONS AFTER WHICH THE TOTAL IS AUTOMATICALLY RESET
After having carried out the set weighs, the accumulated general total is reset; set a value between 0 and 63.
NOTE: the value 0 disables the function

TOTALISATION OPERATIONS
In order to carry out the totalisation it is necessary to to load the weight on the scale and press the MODE key (if the automatic totalisation has not been set): if the weight is accumulated in two total levels (a partial total and a general total).
To totalize, the net weight must be
- at least 1 division with non approved instrument and with normal or fast totalisation;
- at least 10 division with non approved instrument and with automatic totalisation;
- at least 20 divisions with approved instrument.

To avoid undesired accumulations, the "MODE" key is active just once; it reactivates depending on the setting of the " rEACT " parameter in the SET-UP environment, in other words, either after passing by the net zero of the scale, by instability or always (see section 15.10 “REENABLING OF THE INDICATOR FUNCTIONS”).
By pressing the MODE key again, **without having reenabled the totalisation**:
After a totalisation, press the MODE key again:
- with the normal totalizer, one can temporarily view on the display the number of weighs carried out and the PARTIAL NET TOTAL accumulated until that moment (Subtotal): if the accumulated digit is more than 5 digits the visualisation takes place in two stages.
- with the fast totalizer the " no.0.UnS " error message is displayed.

NOTE:
- If the gross or net weight is less or equal to zero, by pressing the **MODE** key the display shows the “LoW” error message.
- If the indicator is in the under load or over load status, by pressing the **MODE** key the display shows the “un.oVEr” error message.

ZEROING OF THE TOTALS
The instrument has two different total levels, a partial total and a general total, which increase upon each totalisation; these may be zeroed independently from each other.

To zero the PARTIAL TOTAL one should press for an instant the ENTER/PRINT key; depending on the type of totalisation, various messages will be displayed:
- With **normal totalisation** the number of weighs and the accumulated total will be displayed.
- With **fast or automatic totalisation** the message “totAL” will be displayed.

To zero the GENERAL TOTAL one should press for a few seconds the ENTER/PRINT key; depending on the type of totalisation; various messages will be displayed:
- With **normal totalisation** the number of weighs and the accumulated total will be displayed.
- With **fast or automatic totalisation** the message “G.totAL” will be displayed.

During the weighing, it is possible to view at any time the number of weighs and the accumulated net weight in the

totals:
- By pressing for an instant the **6** key, the following will be displayed in this sequence:
  "n x", in which x is the number of weighs 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 weighs made
  "totAL", followed by the accumulated **GENERAL NET TOTAL**.

MEMORY STORAGES
It is possible to memorize the weigh totalisation 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 made totalisations are stored in the storage number just entered.
- To change the storage, repeat the same 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 to be the basic one in which non-addressed weights are accumulated.

16.14 VERTICAL TOTALIZER (Sum by recipe) (tot S)
Like the horizontal totaliser but with each pressing of MODE the indicated weight is totalised and automatically tared; in this way it is possible for example to fill a container with various products.
Note: At the end of the totalisation operations, if one wants to view the gross weight on the scale one should press the **C** key.

16.15 PIECE COUNTING (COUn)
In this functioning mode it is possible to carry out the reference operations in order to use the scale for counting pieces.
When the functioning mode is selected, one is asked to set some parameters:

- **"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 not save.

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

- **"WAit.t" : sampling interval.**
  Setting of the sampling time (in seconds, with a decimal); greater is the time set and more precise will the calculated APW 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 not save.
It is possible to change the sampling time also during the weighing, by pressing in sequence the F and 7 keys. If the entered value is confirmed, it substitutes the one in the set-up environment.

COUNTING PROCEDURE

1) Place the empty container on the scale and press TARE to tare it.
2) Check that the zero is on the display and press the MODE button: the counting function activates
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 size.
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 will indicate SAMPL and the indicator will calculate the **A**verage **P**iece **W**eight (**APW**). After a few instants the display will indicate the quantity selected put on the platform.
7) Add the rest of the items to count in the container and whose 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) By pressing the MODE key one switches 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 at length the MODE key and repeat the operations as describe in 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 IN EXTRACTION

1) Load a FULL container on the scale and press "TARE" to tare it.
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) From the container take off the same number of pieces and press "ENTER/PRINT” to confirm. The display shows "SAMPL" while the indicator calculates the Average Piece Weight. The display shows in negative the quantity extracted.
6) 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 correctly calculate the APW. The “Er.Mot” is shown remaining for about three seconds. One should therefore 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. One should therefore use a higher reference quantity.

VARIABLE SAMPLE SIZE (REFERENCE QUANTITY)

It is possible to insert directly by keyboard any reference quantity up to 999999 (not only the quantities proposed 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 a quantity already stored.
- Modify and/or enter the quantity (up to 999999) using the numeric keys.
- Follow the operations describe in point **5)** in 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 tare, press “**F**” + “**6**”**,** or the ENTER/PRINT key at length.
- The display will indicate *" APW "* and then "000.000" 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
000.000 means 000,000 g (for example APW = 001,050 = 1,05 g).
Press ENTER to confirm and load the pieces to count as described in section PCS COUNTING point 5.

17. INSTRUMENT MESSAGES WHILE IN USE

MESSAGE	DESCRIPTION
ZERO	The scale is zeroing the weight.
AL.Err	It is displayed when one selects the alibi memory functioning mode, and upon start-up, the alibi memory is not connected or there are communication problems between the indicator and the board. The "unit of measure/pounds conversion" functioning is automatically set, but not saved in the set-up environment.
Er.i.b.X	A function has been linked to input X (from 1 to 4) and this is not present; see the "InPutS" parameter of the set-up environment (**TECH.MAN.REF.).**
Er.r.b.X	In a set point functioning mode the output X has been set (from 1 to 4) and this is not present; see the "outPut" parameter of the set-up environment (**TECH.MAN.REF).**
BuSy	Print under way (PRN serial port is occupied) or indicator waiting to transmit a printing to a PC.
UnStAB	One is trying to print with an unstable weight.
un.oVEr	One is trying to print with the weight in underload or in overload, in other words, with a weight of 9 divisions greater than the capacity or of 20 divisions below the gross zero.
LoW	Weight less than the minimum weight provided for the printing, the totalisation or the transmission of the string, standard or extended, upon pressing of the print key.
no.0.unS	Weight not passed by net 0 or by instability.
ConV.	In standard mode, with approved instrument, one is trying to print while the instrument is converting the unit of measure.
no in	In the input/output mode (set as "in.out"), one is trying to acquire a second time the input weight.
no out	In the input/output mode (set as "in.out"), one is trying to acquire a second time the output weight.
no 1	In the input/output mode (set as "G.t." or "1st.2nd**"**), one is trying to acquire a second time the input weight.
no 2	In the input/output mode (set as "G.t." or "1st.2nd**"**), one is trying to acquire a second time the output weight.
Er.Mot	Unstable weight.
Error	In the counting mode, the sampling has not been made because one should use a higher reference quantity.
StorE	It is displayed when data is stored in the permanent storage of the instrument (setpoint, tares, ticket progressive, etc.)
Err.CLK	Communication problems with the date/time of the indicator: check the **F.ModE >> CLoCK** step of the set-up (**TECH.MAN.REF.**).
PREC.	It is displayed if one tries to calibrate a point without first having confirmed the number of calibration points
ERPNT	During the acquisition of a calibration point a null value has been read by the converter.
Er – 11	Calibration error: a too small sample 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 number of converter points per scale division is less than two. Carry out again the calibration with special attention to the capacity and the division.
Er – 39	It is displayed when the instrument has not yet been calibrated and initialized. press the **TARE** key when the instrument displays "ERR – 39" to enter the technical set-up environment. Carry out the initialization of the indicator ("dEFAu" parameter) and the selection of the type of keyboard ("KEYb" parameter) and finally the programming of all the parameters of the set-up environment and the calibration.

DINI ARGEO
Scales - Weighing systems
www.diniargeo.com

DECLARATION OF CE CONFORMITY

We **DINI ARGEO Srl,**
Via della Fisica, 20
41042 Spezzano di Fiorano - MODENA

Declare under our responsability that the products ***TPWATEX3GD*** *is made up of:*

DFWATEX3GD electronic weighing terminals
Pallet truck scale TPW series (Tech. File AETF01 Dep. n° CEC-04/2036-ADF088)

Described in this declaration conform to the following directives:

- **EMC 2004/108/EU**
- **ATEX 94/9/EC**
- **98/37/EC**
- **90/384/EEC**

The conformity is confirmed by the observance of the following norms:

- EN 60079-0: 2004
- EN 60079-15:2006
- EN 61241-0:2007
- EN 61241-1:2006
- EN 1127-1:1997
- EN 13463-1:2001
- EN 61000-6-1:2007, EN 55011:2007, EN 61010-1:2001
- EN 45501:1992 *(*)*

(*)the EN 45501 norm is cited when the instrument is submitted to a metric verification ("stamping")

Markings:

CE Ex **II 3GD IIC T6 T130°C**

Spezzano di Fiorano, 13/02/2008

Signature
Marco Bertoni
President

ONE YEAR WARRANTY

The TWO YEARS 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 (such as 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