

USER MANUAL WEIGHT INDICATOR



E-AF09: PROGRAM VERSION FOR DYNAMIC OR STATIC AXLES WEIGHING WITH INPUT/OUTPUT FUNCTION



LINE 1 HEADER	
LINE 2 HEADER	
LINE 3 HEADER	

VEHICLE: IVECO	
REGISTRATION: 123456	
PLATE: AB123CD	
OPERATOR: ALESSIO	
DATE: 10/10/2010 TIME 14:00	

AXLE 1:	550kg
AXLE 2:	550kg
AXLE 3:	550kg
AXLE 4:	550kg

TOTAL	2200kg

3590EKR, 3590EXP, 3590EXT, CPWE, CPWET series indicator



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1. INTRODUCTION

This manual was created to help you install and learn all about the functional possibilities of the purchased indicator.

The instrument is suitable for use in various weighing environments.

Not only does it have all the normal features of high-precision scales, but it also gives you the possibility to work in specific environments due to the functioning modes contained in the software implemented in the FLASH MEMORY on the internal board; This makes the instrument extremely flexible and it can be used in many different industrial applications linked to weighing. The double numerical and interactive alphanumerical display, the alphanumerical and function keyboard, allow the operator an easy and immediate use and provide the microcontroller with DATA ENTRY functions in addition to the normal weighing functions. The input/output allows the instrument to control various external devices, to receive external commands, control a printer and communicate with a personal computer or to be inserted in a network of weight indicators controlled by a PC.



Please note that this instrument is covered by a warranty and **MUST NOT BE OPENED BY THE USER** for any reason whatsoever. Any attempt to repair or modify the unit exposes the user to the risk of electric shock and will invalidate the entire warranty.

If any problems are found in the unit or with the system in which it is used, the fact must be communicated to the manufacturer or the dealer from whom it was purchased.

In any case, **DISCONNECT THE POWER SUPPLY** before taking any action.

With the 6V rechargeable battery version, it has to be completely recharged (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. In order to avoid the deterioration of the rechargeable battery:

- In standard conditions, never leave the battery partially or completely uncharged; at least once a week recharge it completely.
- In case the instrument is not used for a long period, one needs to
 1. completely recharge the battery before the system is switched off for the last time;
 2. recharge completely every 3 months.

Do not pour liquids on the weight indicator.

Do not use solvents to clean the weight indicator.

Do not expose the instrument to direct sunlight nor place it near heat sources.

Place or anchor the weight indicator and platform on a non-vibrating base.

All the connections of the indicator have to be made respecting the rules applicable in the zone and in the installing environment.

Read carefully and apply what is described in the section 3.

Do not install in any area where there is a risk of explosion.



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.

2. MAIN TECHNICAL SPECIFICATIONS

POWER SUPPLY	3590E: - 12 ÷ 24 Vdc (12Vdc with internal adapter) - 6 Vdc from rechargeable built-in battery, fitted depending on the model. CPWE - CPWET - 12 ÷ 24 Vdc
MAXIMUM POWER	16 VA.
OPERATING TEMPERATURE	From -15 to +40 °C.
CONVERTER	24 bit Sigma Delta.
CONVERSION SPEED	200 conv./sec with automatic selection.
RANGE OF INPUT SIGNAL	0,6 mV/V - 3,2 mV/V.
MINIMUM VOLTAGE PER DIVISION	0.3 µV (approved instrument); 0.03 µV (non-approved instrument).
AUTOMATIC ZERO DETECTION	Only in gross mode, programmable at +/- ¼, ½, 1, 2 divisions.
ZERO RANGE	Configurable up to +/- 50% of max load capacity.
AUTO ZERO AT START-UP	Configurable up to +/- 50% of max load capacity.
LOAD CELL POWER SUPPLY	5Vdc ± 5%, 120mA (max 8 350-Ohm cells).
LOAD CELL CONNECTIONS	6 wires with Remote Sense.
DISPLAY DIVISIONS	10000e, 3 x 3000e for legal for trade weighing, expandable up to 800.000 for internal use (with minimum signal coming from the 1,6 mV/V cell).
DISPLAYS	3590E: - Red, high-luminosity LED indicators, with six digits (h 13 mm). - Back lit graphic 160x32 dot LCD. CPWE: Back lit graphic 160x32 dot LCD.
DATABASE/MEMORY	Database of 500 customers (3 descriptions of 20 characters). Database of 500 products (2 descriptions of 20 characters). Database of 500 vehicles (description of 20 characters, plate of 10 characters, linked tare).
SIGNALS	3590E: 16 status LEDs. Graphic icons on LCD display. CPWE: Graphic icons on LCD display. CPWET: 3-way control light. Graphic icons on LCD display
KEYBOARD	Impermeable polycarbonate keyboard with 24 multifunction (IP65 protection degree), with membrane keys with audible and tactile feedback.
PARAMETER SETUP	Calibration and linearity (up to 8 points), fully digital and programmable from the keyboard or from PC with Dinitools™.
CLOCK/DATE	Fitted, with buffer RAM.
SERIAL OUTPUTS	- 2 input/output RS232 ports on terminal board/ amp connector. - 1 input/output RS485 port on terminal board or RS232 on amp connector. - Management of PC keyboard or barcode reader
INPUTS AND OUTPUTS	3590EXP, 3590EXT and CPWET: - 2 optoisolated inputs (optoisolated photo couplers), 12Vdc – 24Vdc, 20mA max - 4 outputs (optoisolated photomofets), 48Vac / 0.15A, 60Vdc / 0.15A, 10 Ω max. 3590EXT (in IO version) and CPWE: - 8 inputs (optoisolated photo couplers), 12Vdc – 24Vdc, 20mA max. - 16 outputs (optoisolated photomofets), 48Vac / 0.15A, 60Vdc / 0.15A.
ANALOGUE OUTPUT (Option available on the 3590EXT in IO version and CPWE version)	- 16-bit analogue output configurable from keyboard (full-scale value; zero scale value and minimum value) from 0 to 10 Vdc, from 0 to 20mA or from 4 to 20mA; the maximum resistance applicable on the output current is 350 Ohm and the minimum resistance applicable on the output voltage is 10 kohm.

2.1 ACCESSORIES AVAILABLE





On the indicator is possible to implement internal and external modules used to increase interfacing possibilities.

For example, the number of usable outputs, various types of printers, in order to have a report of the weighs made, or giant display in order to better see the weigh operations. Also, one can connect a PC in order to simply program the instrument through Dinitools™, or in order to have a complete management of the weighs.

Contact the reseller for the list of the available hardware and software accessories.

2.2 SYMBOLS USED

Below are the symbols or texts used in the manual to recall the reader's attention and on the instrument to recall the user's attention

	ATTENTION! Only qualified personnel must perform this operation
	ATTENTION! This is referred to working on energized lines: only qualified personnel must require or perform this operation.
	CE CONFORMITY
	IDENTIFIES THE CLASS OF PRECISION.
"TECH.MAN.REF."	It means that an advanced function is being described (therefore for the technical personnel) which will be further explained in the corresponding technical manual.

THE INSTRUMENT'S DANGEROUS VOLTAGE PARTS AND THE PARTS THE USER CAN ACCESS HAVE BEEN ELECTRICALLY INSULATED.

3. INSTALLATION

3.1 POWER SUPPLY

- The 3590E indicator is powered with 12Vdc voltage, through an internal adapter which converts the $100 \div 240$ Vac, 50÷60Hz mains voltage and 6 Vdc, from the built-in battery (fitted, depending on the model).

TO POWER the instrument through the 240 Vac mains, or **TO RECHARGE** the battery, insert the plug and the adapter to the 240 Vac mains socket.

- The CPWE indicator is powered with $12 \div 24$ Vdc voltage.

- The CPWET indicator is powered with $12 \div 24$ Vdc voltage.

To connect it to the power mains, the safety regulations must be observed, including the use of a "clean" line without disturbances or interference caused by other electronic equipment.

Version with rechargeable battery: the battery inside the indicator, lasts about 25 hours (without the expansion board, with 1-cell platform) and it needs a recharging time of about 12 hours.

BATTERY FEATURES

Material	LEAD
Power	4,5 Ah
Voltage	6 V

THE BATTERY MUST BE SUPPLIED DIRECTLY FROM THE MANUFACTURER.

NOTE: *it is advisable to completely recharge it (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.*

Do not connect other equipment to the same socket as the one that the adapter is in.

Do not step on or crush the power supply cable

3.2 START UP

TO TURN ON the 3590E or the CPWET press the **C** key until the display turns on; then release.

The CPWE instead is automatically turned on as soon as it is powered.

The display shows:

- Initially a welcome message (settable in the TECHNICAL SET-UP, << LoGo >> **StEP**, **TECH.MAN.REF**) while the instrument carries out a series of checking and preheating self tests.
- E-AF09 - XX name of the installed software, in which XX identifies the software language.
XX.YY is the software version installed.
- "EXECUTION AUTOZERO"

The instrument carries out the "autozero at start-up" function: if a weight is detected within the percentile set in the << **Auto-0** >> step (**TECH.MAN.REF.**), it is cleared; if the weight is not within this tolerance:

- with a non approved instrument, the display shows the weight after a few instants,
- with an approved instrument, the message "EXECUTION AUTOZERO" appears continuously on the display, until the weight is within tolerance.

The autozero function at start-up can be disabled in the set-up environment (only with a non approved instrument), see the <<**Auto 0**>> parameter.

By pressing the **2ndF** key for an instant while the version is shown in the display, the indicator will show in this order:

XX.YY in which XX indicates the instrument type, YY indicates the metrological software version.

XX.YY.ZZ is the installed software version.

HH is the installed hardware version (08).

LEGAL FOR TRADE or HIGH RESOLUTION if the instrument is APPROVED or UNAPPROVED, respectively.

9.XXXXX is the g gravity value (only with APPROVED instrument).

3.3 TURNING OFF THE INSTRUMENT

TO TURN OFF the 3590E/CPWET or **TO RESTART** the CPWE keep the **C** key pressed until the "- OFF -" message appears on the LED display and " *** POWER OFF *** " on the LCD display.

TO TURN OFF the CPWE remove the instrument's power supply.

3.4 TURNING ON PRINTER IN ENERGY SAVING MODE

Premise: the **SEtUP >> SEriAL >> CoMPrn >> PWRPrn** parameter must be set as “**ExtoFF**” or “**PWrint**” (**TECH.MAN.REF**).

In a system where the indicator is connected to a printer, both are battery powered, the printer is normally maintained in STAND-BY and powered only when a printout is needed. This function reduces the energy absorbed by the battery when the printer is not being used.

If, in this configuration, one should power the printer to change the paper and other maintenance jobs, one needs to press in sequence the **ENTER** and **0** keys during the weighing: the LED display shows **Prn – on** (Blinking), and the printer is kept on. Press any key to exit from this condition.

4. FRONT PANEL KEYS

3590E:



CPWE:



CPWET



4.1 FUNCTION OF THE KEYS

In the following section, and later on in the manual, the keys's functioning is described in accordance to how these are configured by factory.

It is possible to customise the functionality of the keys through the << **F.KEYS** >> step.

C/DEL	<ul style="list-style-type: none"> - Turns the instrument on/off - If pressed for an instant, it clears the tare value. - Exits the parameter without confirming and saving the modifications. - In the numeric input phase, it quickly clears the present value
TARE/ ZERO	<ul style="list-style-type: none"> - If pressed for an instant it carries out the semiautomatic tare, or cancels the value of tare if the gross weight is 0. - If pressed at length, it clears the displayed gross weight, if it's within the percentage configured in the << 0.PErC >> step.
Fn/ENTER	<ul style="list-style-type: none"> - In the alphanumeric input phase, it confirms the entry made. - In the menu it allows to enter a step or to confirm a parameter inside a step.
2nd F	<ul style="list-style-type: none"> - In the << F.Keys >> step, if pressed for an instant, the list of the available functions appear and it is possible to choose one of them. - If pressed together with the other keys, it allows carrying out a specific function. (see section 4.1.1)

./HELP	<p>In the calculator mode or when edits printer format, if pressed, the display shows some help descriptions.</p> <p>In the numeric or alphanumeric input phase, it enters, in this order, the following characters: . , ; : # < > \ " % & / () = ? ^ ' [] { };</p> <ul style="list-style-type: none"> - HELP function, see section 4.1.4.
F1	<p>In the << F.Keys >> step, if pressed for an instant, it is possible to set the default key functions.</p> <ul style="list-style-type: none"> - In the numeric or alphanumeric input phase, it allows to copy entered characters. - If pressed for an instant, it enters into the CUSTOMER DATABASE. - If pressed at length, it locks and unlocks the instrument's keyboard (except the C key).
F2	<ul style="list-style-type: none"> - In the numeric or alphanumeric input phase, it allows to stick with copied characters. - If pressed for an instant, it enters into the MATERIAL DATABASE. - If pressed at length, the weight visualisation function with sensitivity x 10 is enabled
F3	<ul style="list-style-type: none"> - If pressed for an instant, it enters into the VEHICLE DATABASE. - If pressed at length, one can adjust the date and time of the instrument.
F4	<ul style="list-style-type: none"> - If pressed for an instant, it allows to fill in the free texts, (only if configured). - If pressed at length, it enters the instrument's diagnostics menu.
F5	<ul style="list-style-type: none"> - If pressed at length, it locks/unlocks the tare. - Commands the data transmission to the printer serial port.
F6	<ul style="list-style-type: none"> - If pressed for an instant, it starts the simple axle totalisation or the input axle totalisation (with Input/Output function enabled). - In the numeric or alphanumeric phase, it decreases the blinking digit. - It allows scrolling ahead inside the menu steps or in the parameters within a step.
F7	<ul style="list-style-type: none"> - If pressed for an instant, it starts output axle totalisation (with Input/Output function enabled). - In the numeric or alphanumeric input phase, it increments the blinking digit. - It allows scrolling backwards in the menu steps or in the parameters within a step.
F8	<ul style="list-style-type: none"> - If pressed for an instant, it executes the printing and the zeroing of the partial total. - In the numeric or alphanumeric input phase, it selects the digit to be modified from right to left.
F9	<ul style="list-style-type: none"> - If pressed for an instant, it allows to manually close the automatic axle totalisation cycle with consequent determination of the total weight. See section 13.2.2, 13.2.3, 13.3.2 and 13.3.3. - In the numeric or alphanumeric input phase, it selects the digit to be modified from left to right.
F10	<ul style="list-style-type: none"> - If pressed for an instant, it allows to reset the automatic axle totalisation cycle, cancelling all the totalized axles. See section 13.4.1 - In the numeric or alphanumeric input phase, introduces a space between two characters.
NUMERIC KEYBOARD	<p>Entry of digits or characters.</p> <ul style="list-style-type: none"> - During weighing, these enter a numeric value with which it's possible to: <ol style="list-style-type: none"> 1) Set the tare value, by pressing subsequently the TARE key (see section 7.2). 2) Sum, subtract, or multiply the value entered from the keyboard to the current tare (see the 15.3 CALCULATOR section).

4.2 "2ndF" KEY: SECOND FUNCTION OF THE KEYS

In the weighing phase, by pressing the **2ndF** key together with another key, it's possible to execute various functions (continue reading the manual for the details of the functions):

2ndF	F1	Print/Clearing of Customer Total.
2ndF	F2	Print/Clearing of Material Total.
2ndF	F3	Print/Clearing of Vehicle Total.
2ndF	F4	Deselecting all the elements selected from the databases.
2ndF	F5	Repetition of the last printout made.
2ndF	F8	Net/Gross Conversion
2ndF	F9	Change LCD visualization
2ndF	C	Causes the display of the present metric scale information (see section 9).

4.3 ENTERING ALPHANUMERIC TEXT

It might be necessary, while the weighing system is working, to enter some alphanumerical texts such as descriptions, alphanumerical messages (operator, lot number, customer, etc.).

To enter the characters one uses the **0** to **9** keys.

By pressing one of these keys a few times, the characters shown on the key will be shown on the display: initially the first letter in the bottom left will appear, and then the other characters towards the right.

After digiting a character, the blinking cursor, after a few instants, advances automatically of a position.

When the maximum number of characters has been reached, the indicator emits an acoustic signal and the cursor remains in that positions.

TAKE NOTE:

In the updating of a text, if the cursor is at the beginning of the text and the first key pressed is **C** or a character/number key, all the entered characters will be deleted.

Function of the keys

F5	Switches the writing mode from “numeric” (nuM) to “characters” (ChAr). In the nuM mode one enters <u>just the numbers</u> , while in the ChAr mode one can enter <u>all the characters of a key</u> . The last writing mode selected is stored by the instrument.
C	If pressed for an instant, it cancels the written characters: first the characters that follow the cursor are cancelled; than those that precede it, one at a time. If pressed at length, it deletes all entered characters. With empty text, it exits the entry phase without confirming.
SHIFT	It enters a space in the middle of a text.
./HELP	If pressed a few times it allows entering the following characters: . , ; : # < > \ ” % & / () = ? ^ ' [] { }.
0	In “characters” mode (ChAr), by pressing once, a space is entered ; by pressing twice it enters the “0” character.
1	In “characters” mode (ChAr), when pressed repeatedly, it allows to enter the following symbols: ? ! 1 @ ' + - * / = ~ € „ ... † ‡ ^ % ¨ š < OE ž ı ’ “ ” • — — ~ ™ Š > oe ž ø £ ¤ ¥ ¦ § ¨ © ª « ¬ - ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿ ã.
◀ ▶	Moves the blinking cursor to the left or to the right.
▲ ▼	Scrolls in one sense or the other the list of all the enterable characters (0, 1...9, A, B...Y, Z)

Examples:

- To enter the letter “B” one should press the “2” key twice in the **ChAr** mode.
- To enter the number “3” one should press the “3” key four times (in the **ChAr** mode) or press the F5 key (one passes to the **nuM** mode) and press the “3” key once.

4.4 DISABLING THE KEYBOARD

It is possible to disable all the keyboard functions (except the **C** key for turning on and off), in order to avoid undesired pressings of the scale keys:

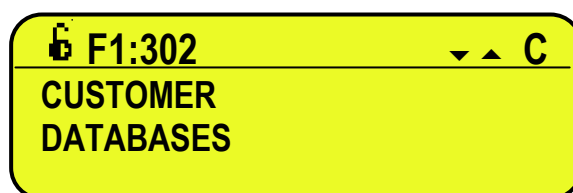
- **To lock the keyboard**, press at length the **F1** key: the display shows the “LoCK” message for a few instants. Now the keyboard is LOCKED: if one presses a key, the display shows for a few instants the “PRESS AT LENGTH F1 FOR UNLOCKING” message.
- **To unlock the keyboard**, press again at length, the **F1** key: the display shows the “unLoCk” message for a few instants.



NOTE: It's possible to lock all keys individually in a permanent way through the TECHNICAL SET-UP, **TECH.MAN.REF.**

4.5 HELP MENU

By pressing at length the **HELP** key it is possible to access a menu containing the list of keys with the relative function, and status (locked or unlocked) indication.

The display shows:



- in the upper part: the key, followed by the code of the linked function in the << **F.Keys** >> step, and a symbol indicating whether the key is unlocked () or locked () in the << **EN.KEYS** >> step.

- in the lower part: the description of the linked function.

Scroll the list with the arrow keys   , press the **C** key to exit.

4.6 INDICATOR CONNECTED TO REMOTE KEYBOARD

It's possible to connect a PC keyboard (optional), used to emulate the functions of the keys of the indicator.

The keys are managed in the following way:

Esc	- C key. - If pressed at start-up, it allows entering in the technical set-up. In the alphanumeric input, it deletes all entered characters.
← and Canc	- C key. - If pressed at start-up, it allows entering in the technical set-up. In the alphanumeric input, it cancels first the characters which follow the cursor, then the ones which precede it, one at a time.
Enter ↵	- Fn key. - Confirms the entered value. - Enters the displayed step
Numeric and alphanumeric keys, SHIFT and CAPS LOCK	- Quick entry of a numeric and alphanumeric string: through the CAPS/LOCK or SHIFT key it is possible to switch from the capital letters to the lower case letters, and vice versa, or enter the second character corresponding to the key (for example " , % , & , / , ?). The entered string is shown on the LCD display.
Cursor keys ↑ ↓	- Scroll the parameters - Increase or decrease the blinking digit while entering a value.
Cursor keys ← →	- When entering a value or an alphanumeric string, it scrolls the digits to the right or to the left.
F1, F2....F10	F1,F2....F10 keys.
F11	2ndF key
F12	TARE key.

The PC keyboard also allows to enter a numeric or alphanumeric string (max.32 characters) and then press a key to execute the corresponding quick function.

For example, if the function 122 (Input text 1 configuration) is combined to the F4 key (see << **F.KEYS** >> step, **TECH.MAN.REF.**), through PC keyboard it's possible to enter a text and the press F4 to quickly modify the input text 1.

NOTE: through the remote keyboard, it's not possible to carry out the functions made by pressing the keys at length.

4.7 REMOTE CONTROL

Depending on the model of indicator, it is possible to remotely control the instrument through one of the following types of remote controls: 19-key infrared (ir), 18-key infrared (ir) or 6-key radio (rd).

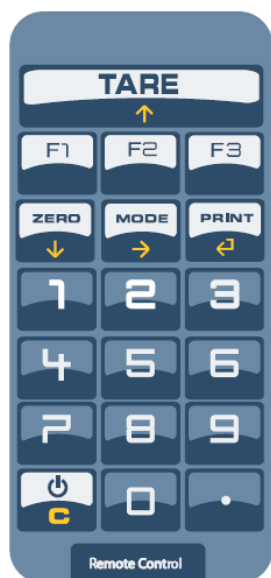
The type of remote control to be used must be selected in the Setup environment, in the << **inF.rEd** >> step (**TECH.MAN.REF.**).

NOTE: The infrared remote controls are for indoor use only.

4.7.1 "19-KEY" INFRARED REMOTE CONTROL

With this type of remote control, the functioning of the keys will be as described in the following table.

FUNCTION OF THE KEYS



KEYBOARD	KEY OR FUNCTION EMULATED
F1...F3	F1...F3 keys
C	C key
NUMERIC KEYS	Entry of digits or characters
TARE / ▲	Tare/zero function or increase of a digit while entering a value
.	./HELP key
ZERO / ▼	Decrease of a digit while entering a value
MODE / →	Scrolls the digits to the right while entering a value
PRINT / ↵	Confirms the entered value or enters the displayed step

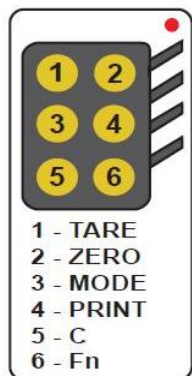
4.7.2 “6-KEY” RADIO REMOTE CONTROL

With this type of remote control, the functioning of each key can be programmed so that it is matched to one of the available keys of the indicator.

This configuration must be carried out in the Setup environment, in the << inF.rEd >> step (**TECH.MAN.REF.**), after the selection of this type of remote control.

By pressing the **/HELP** key of the indicator, it's possible to see, while weighing, the list of the functions matched to the keys of the indicator and also to the keys of the remote control (see section 4.1.4 “HELP MENU”).

EXAMPLE OF CONFIGURATION



USE OF MORE REMOTE CONTROLS WITH ONLY ONE INDICATOR

If one works with only an indicator, it is possible to use any 6-key remote control, without combining it to the indicator, therefore without limiting the number of usable remote controls.

To enable this mode one has to first select “RD 6 BR” in the << inF.rEd >> (**TECH.MAN.REF.**).

USE OF MORE REMOTE CONTROLS WITH SEVERAL INDICATORS IN THE SAME AREA

If one needs to use several indicators in the same area, it is possible to combine each remote control to the desired indicator, in order to execute the function only on it and therefore avoid emulating the function on all indicators in use.

By enabling this mode it will be possible to combine up to 3 different remote controls (e.i. for 3 different operators) for each indicator.

To enable this mode one has to first select “RD 6” in the << inF.rEd >> (**TECH.MAN.REF.**).

To link a new remote control to the indicator one has to:

- press at length 1 and 2 keys together (3 seconds).
- the instrument displays "aut.rd?"
- press the ENTER key of the indicator
- the new remote control is linked

To remove the linking of a remote control one has to:

- press at length 1 and 2 keys together (3 seconds).
- the instrument displays "aut.rd?"
- press the C key of the indicator; if the remote control was previously linked, it will be removed.

5. DISPLAY FUNCTIONS

During the weighing the displays are subdivided mainly in 3 sections, shown in the figure below:

- WEIGHT
- STATUS INDICATORS (led pilot lights and / or graphic symbols)
- DATA (two lines in the 3590E; one or two lines in the CPWE, depending on the weight zoom function described in the following section). See section 5.4.

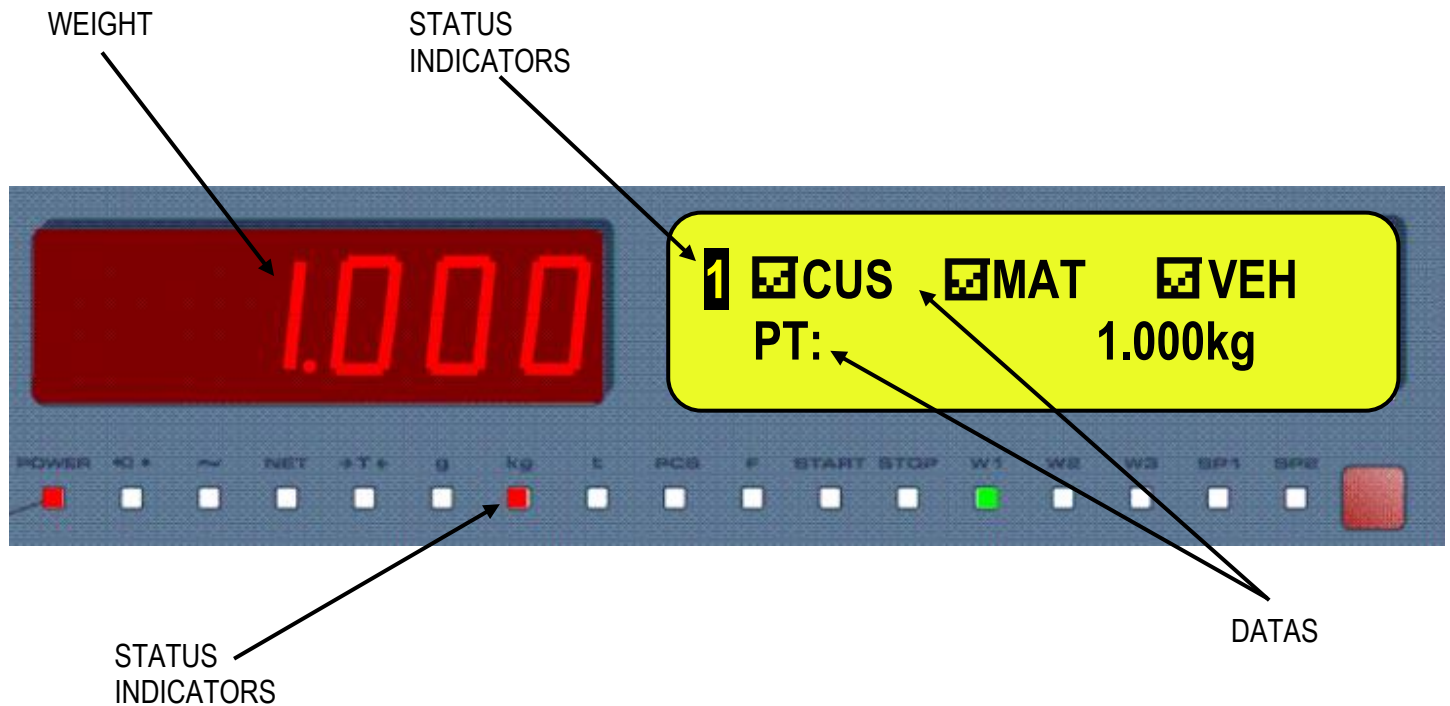


Figure 1: 3590E displays

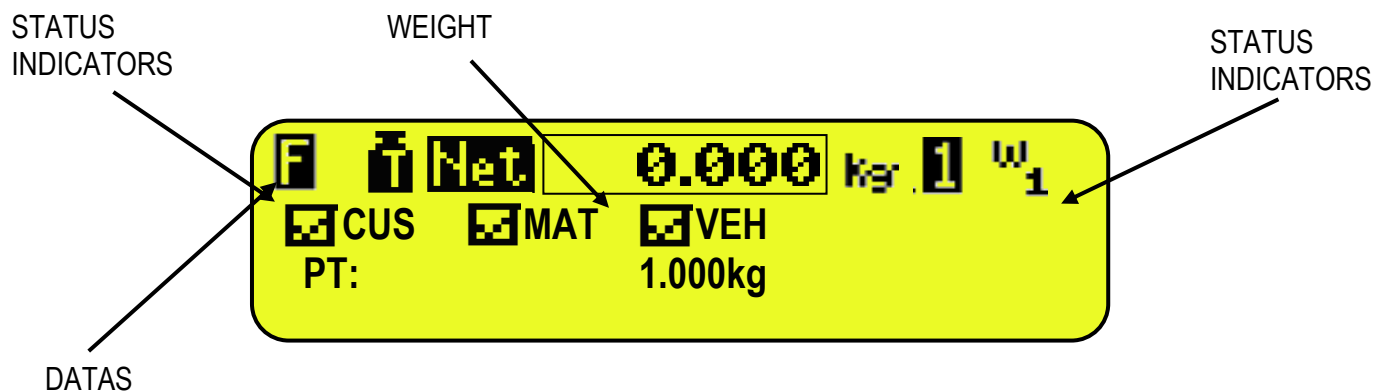


Figure 2: CPWE/CPWET display

5.1 WEIGHT ZOOM (available only on CPWE and CPWET models)

The zoom function allows to increase the size of the weight digits, in order to ease the reading from a distance; with the active zoom, the data is shown on a single line.



Through the << **ZOOM.W** >> step, one can disable/enable the function and set a delay which determines the activation mode:

- Always active function (with delay equal to 0), or
- Disabled function at the pressing of a key and re-enabled automatically when the keyboard inactivity time reaches the configured delay period (with delay greater than 0).

5.2 STATUS INDICATORS

LED	FUNCTION
POWER	Indicates the type of indicator power supply: <ul style="list-style-type: none"> - red pilot light: through built-in power adapter; - green pilot light: through battery (charged battery); - pilot light off: through battery (discharged battery).
→0←	Indicates that the weight detected by the weighing system is near zero, including the interval of $1/4 + 1/4$ of the scale's division.
~	Indicates that the weight is unstable.
NET	Indicates that the weight shown by the LED display is a NET WEIGHT.
→T←	Indicates that a tare value has been acquired or entered.
g	Indicates that the unit of measure in use is the gram.
kg	Indicates that the unit of measure in use is the kilogram.
t	Indicates that the unit of measure in use is the ton.
PCS	Not used in this application
F	Indicates that an axle totalization cycle is in execution.
START	Not used in this application
STOP	Not used in this application.
W1 W2 W3	See section 8.
SP1	Not used in this application
SP2	Not used in this application

SYMBOLS FUNCTIONS ON THE LCD DISPLAY

SYMBOL ON LCD DISPLAY	FUNCTION
	The weight detected by the weighing system is near the zero, included within the interval of $-1/4$ and $+1/4$ of the scale division.
	The weight is unstable.

	The displayed weight is a GROSS WEIGHT (depending on the software language).
	The displayed weight is a NET WEIGHT.
	A tare value has been acquired.
	A manual tare value has been entered.
	Unit of measure in use: ton, kilogram, gram, pounds, millilitres, or millivolts.
	Active weighing range, see section 8.
	Active scale (always 1).
	Indicates that an axle totalization cycle is in execution.
	Battery charge level: see section 5.3.
	Active during the configuration of the date and time.
	Locked keyboard, see section 4.4
	In the HELP menu these respectively indicate whether a key is unlocked or locked in the SETUP level (<< En.KEYS >> step, see section 4.5)
	The Fn key has been pressed.
	The 2nd F key has been pressed.
	Transmission of the data to the printer serial port under way.
	Inside the step, these respectively indicate an unselected or selected parameter.
	These indicate respectively if an element of the database is unselected or selected (see section 5.4).
	Active calculator function, see section 15.3 CALCULATOR.






5.3 BATTERY LEVEL INDICATION

The indicator is able to recognise whether it is powered by mains or by battery, and to indicate its charge level; to enable the battery level indication, one should configure the << **bt.LEVEL** >> step.

The charge level is shown during weighing by the battery symbol.

- : charged battery.
- : partially charged battery.
- : discharged battery: connect the indicator to the mains for recharging the battery (if provided by that model) or replacing the battery.

The indicator shows also when the battery is being recharged (if provided for the model):

RECHARGE PHASE:  →  →  →  →  ...

COMPLETED RECHARGE: 

NOTES:




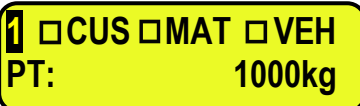
- During the recharge the instrument can be normally used.
- The instrument automatically turns off when the voltage goes below the minimum level.

5.4 DISPLAYED DATA

3590E:

The data is displayed on two lines and depends on the status of the instrument:

- When not in the axle totalization cycle, the visualization will be as follow:

VISUALISATION	EXAMPLES	
	WITH ELEMENT SELECTED	WITH ELEMENT NOT SELECTED
- Indication of the selected elements (CUS:customer / MAT:material / VEH:vehicle):  Element selected  Element not selected - PT is Preset tare (if set) to be subtracted from the total accumulated weight (see section 13.3.6).		



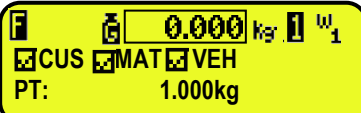
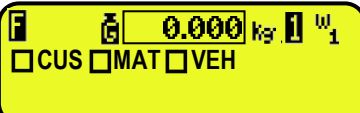
- During the axle totalization cycle the display will guide the operator to execute the weighing procedure depending on the selected functioning mode. Refer to section 13 for details.

CPWE:

VISUALISATION WITH NON ACTIVE WEIGHT ZOOM

The data is shown on two lines under the “weight” section depending on the status of the instrument:

- When not in the axle totalization cycle, the visualization will be as follows:



VISUALISATION	EXAMPLES	
	WITH ELEMENT SELECTED	WITH ELEMENT NOT SELECTED
- Indication of the selected elements (CUS:customer / MAT:material / VEH:vehicle):  Element selected  Element not selected - PT is Preset tare (if set) to be subtracted from the total accumulated weight (see section 13.3.6).		

- During the axle totalization cycle the display will guide the operator to execute the weighing procedure depending on the selected functioning mode. Refer to section 13 for details.

VISUALISATION WITH ACTIVE WEIGHT ZOOM

The data is shown on one line under the “weight” section depending on the status of the instrument:

- When not in the axle totalization cycle, the visualization will be as follows:

VISUALISATION	EXAMPLES	
	WITH ELEMENT SELECTED	WITH ELEMENT NOT SELECTED
- Indication of the selected elements (CUS:customer / MAT:material / VEH:vehicle): <input checked="" type="checkbox"/> Element selected <input type="checkbox"/> Element not selected		

5.4.1 LCD DISPLAY CUSTOMIZATION (ONLY FOR 3590E INDICATORS)

On the 3590E models it is possible to customize the data displayed on the LCD display, through the print format 99 (see the section “DISPLAY CUSTOMIZATION”, **TECH.MAN.REF.**), by using the DiniTools™ software.

By pressing in sequence the **Fn** and **F9** keys it's possible to activate the customized visualization.

The default configuration for this visualization is the following:

1	MAT.: MATERIAL 1 -----	first description of the selected material
	CUS.: CUSTOMER 1 -----	first description of the selected customer
	VEH.: TRUCK 1 -----	first description of the selected vehicle
	TARE 0.000 kg	

If more than 4 lines have been programmed, it's possible to scroll the visualizations by pressing in sequence the **Fn** and **F9** keys.

Once that this visualization has been activated, press in sequence the **2ndF** and **F9** keys to display again the standard visualisations described in the previous sections.

5.5 MESSAGES OF THE INSTRUMENT

While using the indicator, it is possible to incur into the following errors:

5.5.1 INSIDE THE SET-UP OR MENU OR AT START-UP

MESSAGE	DESCRIPTION
Error S X Cell Y	Communication error on scale X (E.G. Range 1), to Platform number Y
Err. – 98	Connection error between the indicator and the platforms, after have showed this error, the instrument, show which platform has problems.
C.Er. – 8.03	When carrying out the multirange or multidivisional calibration, the ranges have not been entered in an increasing manner (RANGE 1 < RANGE 2 < RANGE 3).
C.Er. – 36 CALIBRATION ERROR	During the calibration some internal negative points have been calculated: <ul style="list-style-type: none"> - the calibration point is less than the zero point. - the signal is negative (check the connections)
Err.–37 / alternately with No.Cal CALIBRATION ERROR	During the calibration some internal points less than the minimum value have been calculated: <ul style="list-style-type: none"> - the calibration point is equal to the zero point. - A capacity too high in relation to the division has been set.
Err. – 38 NO CALIBRATION	Range not valid: please check that RANGE 1 < RANGE 2 < RANGE 3.
Er – 39 NO CALIBRATION	Invalid calibration range number (there is the value 0 or values greater than 3); one must execute a TECHNICAL DEFAULT (dFLt.t parameter of the SET-UP environment), if not already executed previously, and carefully carry out the calibration.
Er – 40	The value 0 is in the “range 1” parameter of the calibration; one must execute a TECHNICAL DEFAULT (dFLt.t parameter of the SET-UP environment) and carefully carry out the calibration.
Er – 41	The value 0 is in the “diV 1” parameter of the calibration; one must execute a TECHNICAL DEFAULT (dFLt.t parameter of the SET-UP environment) and carefully carry out the calibration.
Err. – 72	Equalization coefficient adjustment not allowed because a too low sample weight has been used.
Err. – 85	Equalization coefficient adjustment not allowed because the instrument has not been calibrated.
ErPnt	During the acquisition of a calibration point, a null value from the converter has been read.
hW-Err	HARDWARE ERROR: software not compatible with the installed hardware; the hardware expansion component, which allows the software to function, is missing.
EXITING SETUP: SAVE ?	The instrument requests the saving when exiting the set-up; press ENTER to confirm or C to not continue..
SURE?	The instrument requests a confirmation before proceeding: press ENTER to confirm or C to not continue.
Error	Generic error. Possible motives can be: <ul style="list-style-type: none"> - Division not valid: please check that DIVISION 1 < DIVISION 2 < DIVISION 3; - An error has taken place in the connection, configuration, equalisation, calibration of the cells, etc.
EXECUTION AUTOZERO	“autozero at start-up” function is active (see section 3.4)

5.5.2 IN WEIGHING

MESSAGE	DESCRIPTION
NON VALID OR UNSTABLE WEIGHT	Printing or totalisation not possible with weight at 0, negative, unstable, or out of the totalisation field.
WEIGHT UNDER 1 DIVISION	It's showed on the LCD display when you try to print or totalize with the weight 0 or negative
*** POWER OFF ***	Turning off of the instrument through the key (see section 3.4).
- - - - - - OUT CAPACITY ! -	OVERLOAD The weight is 9 divisions above the Maximum Capacity . Approved instrument: the weight is under the gross zero (-100 divisions). OR UNDERLOAD - Approved instrument: The weight is under the gross zero (-100 divisions). - Non approved instrument: The weight is under the gross zero (- capacity – 9 divisions).
ZERO	Execution of scale zero (see section 6).
TARE	Tare execution (see section 7).
CLEAR	Tare cancellation (see section 7.3)
PRN-ON	Turning on printer for maintenance (see section 3.5).
GROSS	Visualisation of the gross weight.
NET	Visualisation of the net weight.
LOCK	Tare lock or enabled keyboard function.
UNLOCK	Tare lock or disabled keyboard function.
ENTER=RETRY C=CANCEL PRINTOUT	Error during printing: press ENTER to restore the printing or C to cancel it and repeat it through the procedure described in section 13.
PRINTER ERROR: CHECK THE CTS!	Error during the printing: totalisation not possible or printing not executed / finished.
USER - PRESS KEY	See section 12.

6. SCALE ZERO FUNCTION

Keep the **ZERO** key pressed; the message "Zero" appears on the display after which:

- If the weight on the scale is included in the percentage configured in the << **0.PErC** >> (**RIF.MAN.T.**) step, and is stable, it is zeroed;
- If the weight is not within this range, it will not be cleared and an error sound is emitted.
And the indicator automatically returns to the display of the weight present on the scale.

7. TARE FUNCTIONS

7.1 MANUAL PRESET TARE TO BE SUBTRACTED TO THE TOTAL ACCUMULATED WEIGHT

To enter the tare value, one can do it in several ways:

- 1) With the keyboard, type the value (including the decimal point) and press **TARE**.
The **C** key quickly zeros the current value.
- 2) Select a vehicle linked to a tare different than 0.

The indicator automatically subtracts the entered value from the accumulated total weight through one of the available axle totalization procedures (see section 3) as long as it is not greater than it, at the end of the input or output axle totalization cycle (see section 13.3.6).

The operation can be made either with a loaded or unloaded platform.

NOTE

- In the printout, the manual tare is identified with "PT" (Preset Tare).

7.2 CALCULATED MANUAL TARE

With the "CALCULATOR" function one can add or subtract from the current tare the result of an operation between two values entered with the keyboard.

For the functioning specifics see the **15.3 CALCULATOR** section.

7.3 TARE CANCELLATION

To **cancel** the stored tare:

- Deselect the active vehicle.
- With an **unloaded** platform, press the **TARE** key.
- With loaded platform press in sequence the numeric 0 key and **TARE**.
- Press the **C** key.

NOTE: the selection of vehicle linked to a tare equal to 0 has no effect on the present tare.

7.4 LOCKED/UNLOCKED TARE

Normally, when a tare value has been entered (automatically, manually or from storage), if one unloads the scale plate, the tare value remains active (LOCKED TARE). One can also choose that the tare value is cancelled automatically each time that the scale is unloaded (LOCKED TARE):

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

In case of MANUAL TARE, the net weight before the scale unloading must be of at least 2 stable divisions.

If the **F5** key is pressed at length, it is possible to quickly lock/unlock the tare:

DISPLAY	MEANING
LoCK	LOCKED TARE
unLoCK	UNLOCKED TARE

The setting of the tare may be made also in the "TARE LOCK/UNLOCK" **SEtuP >> tare t** parameter of the TECHNICAL SETUP, **TECH.MAN.REF.**

7.5 LIMITATION OF THE TARE FUNCTIONS

For specific requirements, it is possible to limit the tare functions **with approved instrument**; by setting "YES" in the **SEtuP >> d.SALE** step of the SET-UP environment (**TECH.MAN.REF.**):

- the SEMIAUTOMATIC TARE can not be modified with a manual or calculated tare.
- the manual or calculated tare must be entered or modified only with an UNLOADED scale.

With approved instrument, the **SEtuP >> d.SALE** step is read-only.

7.6 TARE EXECUTION MODE OR DISABLING OF THE TARE

It's possible to select the tare execution mode, through the setting of the **F.ModE >> totAL >> tArE t** step (**TECH.MAN.REF.**):

- By setting "diSAbL" one disables all the tare operations;
- By setting "Lock" or "Unlock", all the tare operations described in section 7.4 are enabled.

7.7 ENTERING OF A PRESET TARE IN A VEHICLE IN THE DATABASE.

It is possible to enter a known tare value in each vehicle in the database; this value will be enabled with each selection of the vehicle.

See section 11.3 for further details.

8. MULTIRANGE AND MULTIDIVISION FUNCTION

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, 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.).

NOTE: 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.

This functioning is indicated by the turning on of the LEDs which identify the range in which one is working: **W1** first range, **W2** second range, **W3** third range (if configured); by passing to the **W2** range, the second range division is enabled; by passing to the **W3** range, the third range division is enabled, at this point the **W1** first scale division is restored **only by passing the gross zero of the scale**.

The **multidivisional functioning** is similar to multirange, but with the difference that a range division is enabled as soon as one enters in its range interval (in other words **without passing by the scale zero**).

NOTE: The selection of the range number with multirange and multidivisional functioning is made during the indicator calibration (**TECH.MAN.REF.**).

9. DISPLAY OF METRIC DATA (inFO)

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

- First range capacity, first range minimum weigh, first range division.
- Second range capacity, second range minimum weigh, second range division.
- Third range capacity, third range minimum weigh, third range division.

NOTES:

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

To display the metric data:

- Press in sequence the **2ndF** and **C** key
- "METROLOGIC INFORMATION" is displayed
- The display will show the number of the scale, the type of displayed data and its value.
- Press the **F6** key to quickly scroll the following data
- Press the **F7** key to quickly scroll the previous data backwards.
- Press the **C** key to quickly return to weighing.

10. FILLING IN THE INPUT TEXT

The indicator offers the possibility of using 15 CONFIGURABLE INPUT TEXTS (for example LOT, OPERATOR, SHIFT, etc.), each made up of 16 heading characters and 32 content characters.

When entered in the TECHNICAL SET-UP (see **F.ModE >> tXt** "Input text configuration" parameter, **TECH.MAN.REF.**), these may be printed later on, if programmed in the printouts; or these may be used as a reminder.

To manually fill in the input texts it is possible to proceed in two ways:

- 1) **If one knows the memory storage position** (from 0 to 14) of the text to be modified, type the number, followed by the **F4** key: now enter the text and confirm with **ENTER** (the indicator returns to the weighing phase).
- 2) By pressing for an instant the **F4** key, one accesses the complete list of the texts, for example:
 - a. The LCD display shows "in. XX" in the first line, in which XX is the index of the free text (from 0 to 14) and THE HEADING on the second line (or "Empty..." if empty).
 - b. Use the arrow **▲ ▼** keys to select the text to be filled in and press **ENTER**: now one can enter the alphanumeric text in the second line of the LCD display, (see chapter 4.1.2 ENTERING ALPHANUMERIC TEXT).

- c. Press **ENTER** to store and pass on to the following stored TEXT; by confirming the last entered text one returns automatically to the weigh functioning; it is possible to exit also with the **C** key while in the text selection modification phase.

NOTE:

- The entered texts remain in storage until these are substituted or cancelled.
- If no text has been configured, the pressing of the **F4** key has no effect.
- Through specific print macros, it's possible to automatically cancel the contents of all the texts, right after their printing (**TECH.MAN.REF.**).
- For information on the entry of the alphanumeric texts, see section "4.3 ENTERING ALPHANUMERIC TEXT".

QUICK MODIFICATION OF AN INPUT TEXT









It's possible to access directly to the modification of each of the input texts from 0 to 9 by associating to a key the corresponding function from 121 to 130 (see << **F.kEyS** >> step, **TECH.MAN.REF.**).

Furthermore the external PC keyboard allows to enter a numeric or alphanumeric string (max.32 characters) and then press the key combined to the desired input text to quickly enter the text without having to confirm with ENTER key.

11. DATABASE

11.1 CUSTOMER DATABASE

The database is made up of 500 memory storages, identified by an index from 0 to 499, each having three 25-character descriptions; the entry / modification / cancellation of an element **can be protected by a password**; the unlocking procedure is the same as that described in point number 2) of section 12.

KEY	ACCESS	KEYS	MENU
	Customer Database CUS. XXX	 ►	New
		 ►	Edit
		 ►	Delete
		 ►	Research
		 ►	Print
		Fn ►	Select
		 ►	Deselect
		 / HELP ►	Help

11.1.1 ENTRY

- 1) Press the **F1** key to access the database.
NOTE: we advise to leave empty the memory storage 0, since it is used for the temporary entry (see section "11.1.6 TEMPORARY ENTRY").
- 2) Select the eventual desired position:
 - a. By using the arrow keys ▲ ▼
 - b. With the keyboard by typing the storage number.
- 3) Press **F1** to enter the customer in the desired position, or in the first empty position if an already occupied position has been selected.
- 4) One should fill in the following fields (only the necessary ones are requested) by pressing **ENTER** to confirm:
 - **"DESCRIPTION 1"**: first description line (up to 25 characters);
 - **"DESCRIPTION 2"**: second description line (up to 25 characters);
 - **"DESCRIPTION 3"**: third description line (up to 25 characters);**NOTE: the "DESCRIPTION 2" and "DESCRIPTION 3" fields request can be disabled (see F.Mode >> dtb >> En.C.Fld step, TECH.MAN.REF.)**
- 5) Restart from point 2) or press **C** to return to the weighing phase.

11.1.2 MODIFICATION

- 1) Press the **F1** to access the database.
- 2) Select the storage to be modified:
 - a. by using the arrow keys ▲ ▼
 - b. by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)
 - c. by searching the first description (see section 11.1.7)
- 3) Press **F2**.
- 4) Select the field to be modified by using the arrow keys ▲ ▼ and press **ENTER**.
- 5) Modify the value and press **ENTER** to confirm.
- 6) Restart from point 4) to modify other fields or press **C** to return to the list of storages.
- 7) Restart from point 2) to modify other storages or press **C** to return to the weighing phase.

11.1.3 CANCELLATION

- 1) Press the **F1** key to access the database.
- 2) Select the storage to be deleted:
 - a. by using the arrow keys ▲ ▼
 - b. by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)
 - c. by searching the first description (see section 11.1.7)
- 3) Press **F3**.
- 4) The indicator requests a further confirmation: press **ENTER** to confirm or another key to cancel.
- 5) Restart from point 2) or press **C** to return to the weighing phase.

11.1.4 PRINTING

- 1) Press the **F1** to access the database.
- 2) Press the **F5** key: the LCD display shows "PRINT?". Confirm with **ENTER** or press another key to cancel. here one is given suggestions on how to print the list of the memory storages:

CUS.	0
0 – ALL ARCHIVE	
1 – MOV. CUS	

- By pressing the **0** key **all the memory storages in the database** are printed, each with:
 MEMORY NR.
 DESCRIPTION1
 DESCRIPTION2
 DESCRIPTION3
 INCOMING TOTAL
 OUTCOMING TOTAL
 WEIGHS TOTAL
- By pressing the **1** key, **just the memories which have been handled** will be printed, each with:
 MEMORY NR.
 DESCRIPTION1
 DESCRIPTION2
 DESCRIPTION3
 TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weighs carried out**).
 TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weighs carried out**).
 NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).
 WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weighs carried out.
- Press **C** to return to the weighing phase.

11.1.5 SELECTION / DESELECTION

With no memory storage selected, the LCD display shows in the data section (see 5.4 section):
 To **SELECT** the memory storage, one can proceed in the following ways:

☐ CUS ☐ MAT ☐ VEH

- 1) Type the memory storage number and press **F1**.
- 2) Press the **F1** to access the database.
 Select the memory storage:
 - a. by using the arrow keys ▲ ▼
 - b. by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)
 - c. by searching the first description (see section 11.1.7)
 Press **ENTER** to activate the customer.

- 3) Press a direct key combined to the desired article, for example one can activate the article 1 by pressing directly the F6 key; to do this one has to combine the function 302 to the desired key and insert a preamble value equal to the storage number to select (see << **F.KEYS** >> step, **TECH.MAN.REF.**).

**CUSTOMER XXX
SELECTED**

In both cases, the LCD display shows in the data section (see 5.4 section):

☑CUS ☐MAT ☐VEH

At this point the memory storage will be linked to the weigh under way and will be printed if foreseen in the ticket.

To **DESELECT** the memory storage, one can proceed in two ways:

- 1) Press the **F1** key to access the database and press **2nd F**, the LCD display shows:

**DESELECT
CUSTOMER?**

To confirm press **ENTER** key or another key to cancel.

By pressing in sequence the **2nd F** and **F4** keys it is possible to deselect **ALSO THE MATERIAL AND THE VEHICLE**.
The LCD display shows:

**DESELECT
ALL THE ITEMS?**

Press **ENTER** to confirm or another key to cancel.

NOTE: Through specific print macros, it's possible to **deselect automatically the memory storage**, right after the printing (**TECH.MAN.REF.**).

11.1.6 ENTRY, MODIFICATION AND QUICK SELECTION OF CUSTOMER 000

It's possible to directly enter a temporary memory storage in order to avoid the filling in of the database:

- 1) Press in sequence the **0** (NUMERIC) and **F1**.
- 2) The indicator allows directly filling in the memory storage 000; see section "11.1.1 ENTRY" for the data to be filled in.
- 3) Upon confirmation with **ENTER** of the last data, the memory storage will automatically be selected.

NOTES

- Upon each temporary entry, the 000 memory storage will be overwritten.
- By executing an output weigh, **the last temporary entry made will always** be printed.

11.1.7 ALPHABETICAL RESEARCH

The access to the ALPHABETICAL RESEARCH is possible in the following 2 ways:

- 1) by pressing the **F1** to access the database and by pressing the **F4** key;
or
- 2) through function 313 combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**).

To search a customer:

- 1) Enter the desired characters to be searched in the first description of all the customers.
- 2) Select the desired storage in the list of the results by using the arrow keys **▲ ▼** and press **ENTER**.
- 3) Carry out one of the operations described in the previous sections.









11.1.8 HELP

By pressing the **/HELP** key, it's possible to see the keys list used in the menu.

The key list scrolls automatically. If you want to see the keys list, in manual mode, use the arrow key (F6 ▼ and F7 ▲).

11.2 MATERIALS

The database is made up of 500 memory storages, identified by an index from 0 to 499, each having two 20-character descriptions; the entry / modification / cancellation of an element **can be protected by a password**; the unlocking procedure is described in section 12.

KEYS	ACCESS	KEYS	MENU
	Material Database MAT. XXX	 ►	New
		 ►	Edit
		 ►	Delete
		 ►	Research
		 ►	Print
		Fn ►	Select
		 ►	Deselect
		 / HELP ►	Help

11.2.1 ENTRY

- Press the **F2** key to access the database.
NOTE: it is advisable to leave empty the 0 memory storage, since it is used for the temporary entry (see section "11.2.6 TEMPORARY ENTRY").
- Select the eventual desired position
 - By using the arrow keys ▲ ▼
 - with the keyboard by typing the storage number.
- Press **F1** to insert the material in the desired position, or with the first free position, if an already occupied position has been selected.
- One should fill in the following fields (only the necessary ones are requested); press **ENTER** to confirm:
 - "**DESCRIPTION 1**": first description line (up to 20 characters);
 - "**DESCRIPTION 2**": second description line (up to 20 characters);**NOTE: the "DESCRIPTION 2" field request can be disabled (see F.ModE >> dtb >> En.M.FLd step, RIF.MAN.T.).**
- Restart from point 2) or press **C** to return to the weighing phase.

11.2.2 MODIFICATION

- Press the **F2** key to access the database.
- Select the storage to be modified:
 - by using the arrow keys ▲ ▼
 - by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)
 - by searching the first description (see section 11.2.7)
- Press **F2**.
- Select the field to be modified by using the arrow keys ▲ ▼ and press **ENTER**.
- Modify the value and press **ENTER** to confirm.
- Restart from point 4) to modify other fields or press **C** to return to the list of storages.
- Restart from point 2) to modify other storages or press **C** to return to the weighing phase.

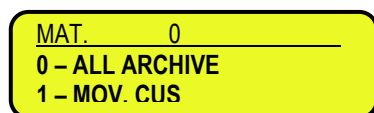
11.2.3 CANCELLATION

- Press the **F2** key to access the database.
- Select the storage to be modified:
 - by using the arrow keys ▲ ▼
 - by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)

- c. by searching the first description (see section 11.2.7)
- 3) Press **F3**.
- 4) The indicator requests a further confirmation: press **ENTER** to confirm or another key to cancel.
- 5) Restart from point 2) or press **C** to return to weighing.

11.2.4 PRINTING

- 1) Press the **F2** key to access the database.
- 2) Press the **F5** key: the LCD display shows "PRINT?". Confirm with **ENTER** or press another key to cancel. Here one is given suggestions on how to print the list of the memory storages:



- By pressing the **0** key **all the memory storages in the database** are printed, each with:
 - MEMORY NR.
 - DESCRIPTION1
 - DESCRIPTION2
 - TOTAL INPUT WEIGHT
 - TOTAL OUTPUT WEIGHT
 - NET TOTAL
 - WEIGHS TOTAL
- By pressing the **1** key, **just the memories which have been handled** will be printed, each with:
 - MEMORY NR.
 - DESCRIPTION1
 - DESCRIPTION2
 - TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weights carried out**).
 - TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weights carried out**).
 - NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).
 - WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weights carried out.

- 3) Restart from point 2) or press **C** to return to weighing.

11.2.5 SELECTION / DESELECTION

With no memory storage selected, the LCD display shows in the data section (see 5.4 section):

□ CUS □ MAT □ VEH

One can **SELECT** the memory storage in two ways:

- 1) Type the memory storage number and press **F2**.
- 2) Press the **F2** key to access the database.
- 3) Select the memory storage:
 - a. by using the arrow keys ▲ ▼
 - b. by typing the storage number with the keyboard (the LCD display shows the first corresponding DESCRIPTION line)
 - c. by searching the first description (see section 11.2.7)
- d. Press a direct key combined to the desired article, for example one can activate the material 1 by pressing directly the F6 key; to do this one has to combine the function 303 to the desired key and insert a preamble value equal to the storage number to select (see << **F.KEYS** >> step, **TECH.MAN.REF.**).

In both cases, the LCD display shows in the data section (see 5.4 section):

☐ CUS ☒ MAT ☐ VEH

At this point the memory storage will be linked to the weigh under way and will be printed if foreseen in the ticket.

To **DESELECT** the memory storage, one can proceed in two ways:

- 1) Press the **F1** key to access the database and press **2nd F**, the LCD display shows:

DESELECT
MATERIAL?

or

- 2) Press a direct key combined to the material deselection function: to enable this function one has to combine the function 307 to the desired key (see << **F.KEYS** >> step, **TECH.MAN.REF.**).

By pressing in sequence the **2nd F** and **F4** keys it is possible to deselect **ALSO THE CUSTOMERS AND THE VEHICLES**.
The LCD display shows:

DESELECT
ALL THE ITEMS?

Press **ENTER** to confirm or another key to cancel.

NOTE: Through specific print macros, it's possible to **deselect automatically the memory storage**, right after the printing (**TECH.MAN.REF.**).

11.2.6 ENTRY, MODIFICATION AND QUICK SELECTION OF MATERIAL 000

It's possible to directly enter a temporary memory storage in order to avoid the filling in of the database:

- 1) Press in sequence the **0** (NUMERIC) and **F2** keys.
- 2) The indicator allows directly filling in the memory storage 000; seeing section "11.2.1 ENTRY" for the data to be filled in.
- 3) Upon confirmation with **ENTER** of the last data, the memory storage will automatically be selected.

NOTES

- Upon each temporary entry, the 000 memory storage will be overwritten.
- By executing an output weigh, **the last temporary entry made will always** be printed.

11.2.7 ALPHABETICAL RESEARCH

The access to the ALPHABETICAL RESEARCH is possible in the following 2 ways:

- 1) by pressing the **F2** to access the database and by pressing the **F4** key;
or
- 2) through function **314** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**).

To search a material:

- 1) Enter the desired characters to be searched in the first description of all the materials.
- 2) Select the desired storage in the list of the results by using the arrow keys **▲ ▼** and press **ENTER**.
- 3) Carry out one of the operations described in the previous sections.


11.2.8 HELP

By pressing the **/HELP** key, it's possible to see the keys list used in the menu.

The key list is automatically. If you want to see the keys list, in manual mode, use the arrow key (F6 **▼** e F7 **▲**).

11.3 VEHICLES

The database is made up of 500 memory storages, identified by an index from 0 to 499, each having a license plate of 10 characters, one 20-character description and a tare value; the entry / modification / cancellation of an element **can be protected by a password**; the unlocking procedure is described in section 12.

KEYS	ACCESS	KEY	MENU
	Vehicles Database VEH. XXX	F1 ►	New
		F2 ►	Edit
		F3 ►	Delete
		F4 ►	Research
		F5 ►	Print
		Fn ►	Select
		2nd F ►	Deselect
		. / HELP ►	Help

11.3.1 ENTRY

- Press the **F3** key to access the database.
NOTE: it is advisable to leave empty the 0 memory storage, since it is used for the temporary entry (see section "11.3.6 TEMPORARY ENTRY").
- Select the eventual desired position using the arrow keys ▲ ▼ (or with the keyboard type the position number).
- Press **F1** to insert the vehicle in the desired position, or with the first free position, if an already occupied position has been selected.
- One should fill in the following fields (only the necessary ones are requested); press **ENTER** to confirm:
 - "**PLATE**": plate value (up to 10 characters);
 - "**DESCRIPTION**": description line (up to 20 characters);
 - "**TARE**": tare value**NOTE: the "DESCRIPTION" and "TARE" fields request can be disabled (see F.ModE >> dtb >> En.V.FLd step, TECH.MAN.REF.).**
- Restart from point 2) or press **C** to return to weighing.

11.3.2 MODIFICATION

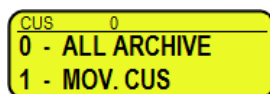
- Press the **F3** to access the database.
- Select the storage to be modified:
 - by using the arrow keys ▲ ▼
 - by typing the storage number with the keyboard (the LCD display shows the first corresponding PLATE line)
 - by searching the plate (see section 11.3.7)
- Press **F2**.
- Select the field to be modified by using the arrow keys ▲ ▼ and press **ENTER**.
- Modify the value and press **ENTER** to confirm.
- Restart from point 4) to modify other fields or press **C** to return to the list of storages.
- Restart from point 2) to modify other storage or press **C** to return to the weighing phase.

11.3.3 CANCELLATION

- Press the **F3** key to access the database.
- Select the storage to be modified:
 - by using the arrow keys ▲ ▼
 - by typing the storage number with the keyboard (the LCD display shows the first corresponding PLATE line)
 - by searching the plate (see section 11.3.7)
- Press **F3**.
- The indicator requests a further confirmation: press **ENTER** to confirm or another key to cancel.
- Restart from point 2) or press **C** to return to weighing.

11.3.4 PRINTING

- 1) Press the **F3** key to access the database.
- 2) Press the **F5** key: the LCD display shows "PRINT?". Confirm with **ENTER** or press another key to cancel. Here one is given suggestions on how to print the list of the memory storages:



- By pressing the **0** key **all the memory storages in the database** are printed, each with:
 MEMORY NR.
 PLATE
 DESCRIPTION
 TARE
 TOTAL INPUT WEIGHT
 TOTAL OUTPUT WEIGHT
 NET TOTAL
 WEIGHS TOTAL
 - By pressing the **1** key, **just the memories which have been handled** will be printed, each with:
 MEMORY NR.
 PLATE
 DESCRIPTION
 TARE
 TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weighs carried out**).
 TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weighs carried out**).
 NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).
 WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weighs carried out.
- 3) Restart from point 2) or press **C** to return to weighing.

11.3.5 SELECTION / DESELECTION

With no memory storage selected, the LCD display shows in the data section (see 5.4 section):

☐ CUS ☐ MAT ☐ VEH

To **SELECT** the memory storage, one can proceed in two ways:

- 1) Type the memory storage number and press **F3**.
- 2) Press the **F3** key to access the database.
 Select the memory storage:
 - a. by using the arrow keys **▲ ▼**
 - b. by typing the storage number with the keyboard (the LCD display shows the first corresponding PLATE line)
 - c. by searching the plate (see section 11.3.7)
- 3) Press a direct key combined to the desired article, for example one can activate the vehicle 1 by pressing directly the F6 key; to do this one has to combine the function 304 to the desired key and insert a preamble value equal to the storage number to select (see << **F.KEYS** >> step, **TECH.MAN.REF.**).

In both cases, the LCD display shows in the data section (see 5.4 section):

☐ CUS ☐ MAT ☒ VEH

At this point the memory storage will be linked to the weigh under way and will be printed if foreseen in the ticket.

To **DESELECT** the memory storage, one can proceed in two ways:

- 1) Press the **F1** key to access the database and press **2nd F**, the LCD display shows:

**DESELECT
VEHICLE?**

or

- 2) Press a direct key combined to the material deselection function: to enable this function one has to combine the function 308 to the desired key (see << **F.KEYS** >> step, **TECH.MAN.REF.**).

By pressing in sequence the **2nd F** and **F4** keys it is possible to deselect **ALSO THE MATERIALS AND THE CUSTOMERS**.
The LCD display shows:

**DESELECT
ALL THE ITEMS?**

Press **ENTER** to confirm or another key to cancel.

NOTE: Through specific print macros, it's possible to **deselect automatically the memory storage**, right after the printing (**TECH.MAN.REF.**).

11.3.6 ENTRY, MODIFICATION AND QUICK SELECTION OF VEHICLE 000

It's possible to directly enter a temporary memory storage in order to avoid the filling in of the database:

- 1) Press in sequence the **0** (NUMERIC) and **F3** keys.
- 2) The indicator allows directly filling in the memory storage 000; seeing section 11.3.1 "ENTRY" for the data to be filled in.
- 3) Upon confirmation with **ENTER** of the last data, the memory storage will automatically be selected.

NOTES

- Upon each temporary entry, the 000 memory storage will be overwritten.
- By executing an output weigh, **the last temporary entry made will always** be printed.

11.3.7 ALPHABETICAL RESEARCH

The access to the ALPHABETICAL RESEARCH is possible in the following 2 ways:

- 1) by pressing the **F3** to access the database and by pressing the **F4** key;
or
- 2) through function **315** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**).

To search a vehicle:

- 1) Enter the desired characters to be searched in the plate of all the vehicles.
- 2) Select the desired storage in the list of the result by using the arrow keys **▲ ▼** and press **ENTER**.
- 3) Carry out one of the operations described in the previous sections.

11.3.8 HELP

By pressing the **/HELP** key, it's possible to see the keys list used in the menu.

The key list is automatically displayed. If you want to see the keys list, in manual mode, use the arrow key (F6 **▼** and F7 **▲**).

12. DATABASE ACCESS PASSWORD

In the SETUP (**F. ModE >> dtb.PWd** parameter, **TECH.MAN.REF.**) one can set a password for access to the databases. A password will be required only when one wants to insert, modify or delete an element of the file; for a moment the LCD display shows the message “**uSEr**”; afterwards, it will be no longer possible to make changes to the database.

To access the complete menu

- Press any key DURING THE VISUALISATION OF THE “**uSEr**”: the instrument requests the entry of the password (a number will appear).
- Enter the password and confirm with ENTER.

13. WEIGHING PROCEDURES

13.1 GENERAL DESCRIPTION OF THE SYSTEM

Besides the basic standard weighing function, this E-AF09 allows to keep under control the flow of goods in input and output from a warehouse or a factory, with the possibility of simultaneously managing up to 500 customers, 500 materials and 500 vehicles.

To guarantee correlation between the two operations, the system foresees two identification methods: through ID code or through the LICENSE PLATE of the vehicle.

The implementation of external modules like the PC keyboard, the bar code or badge readers, allows to quicken the weighing operations.

Two functioning modes are available:

- Checking the weight of the vehicle with printing of the axle and overall total weighs.
- Axle totalisation with input/output function, with Input/output weighs' storage through ID CODE or VEHICLE PLATE (up to 999 suspended weighs).

The input/output function allows to manage the accumulation and the printing of the weight difference.

The weight difference is automatically accumulated in the instrument totals (PARTIAL, GENERAL, GRAND TOTAL), and the weighs' progressives are automatically increased relative to the previously shown totals; if a customer/material/vehicle has been enabled, the instrument increases both the totals as well as the weighs' progressive relative to the selected element.

Each functioning mode can allow to execute the weighing procedures in 3 different ways:

- **Manual** axle weighing and totalisation.
- **Automatic** static axle weighing and totalisation.
- **Automatic** dynamic axle weighing and totalisation.

13.2 SIMPLE AXLES WEIGHING

In this functioning mode, it is possible to get the weight of each axle and calculate their total weight, without any in/out weighing function.

To enable this mode, one has to set the step **F.ModE >> totAL >> In.out** in the setup on “diSAbl”, (**TECH.MAN.REF.**).

13.2.1 MANUAL AXLE WEIGHING

13.2.1.1 CONFIGURATION

- Set parameter in the SETUP: **F.ModE >> totAL >> AXLE W** on “**MANUAL**”.
If before was setted the **DYNAMIC** axles weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.

SET FILTER ?

13.2.1.2 WEIGHING PROCEDURE

- Select, if requested, the customer / material / vehicle to be linked to the weigh.
- Drive and stop the first axle of the vehicle on the scale then press **F6** key to store the displayed weight.
- The indicator waits for stability and displays the following messages:

LCD display

READING WEIGHT

- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E




LED display

tot

LCD display

WEIGH AXLE 2?
ENTER=YES C=NO

CPWE:

  tot kg  w₁
WEIGH AXLE 2 ?
ENTER=YES C=NO

- Then the acquired weight blinks for a few seconds in the weight section (see section 5), and the indicator executes the printout (if set in the corresponds print formats):




3590E

LED display

HHHHHHH

LCD display

WEIGH AXLE 2?
ENTER=YES C=NO

  XXXXXX kg  w₁
WEIGH AXLE 2 ?
ENTER=YES C=NO

[In which: **XXXXXX** is the acquired weight value blinking for about 2 seconds, then the current weight on the scale]

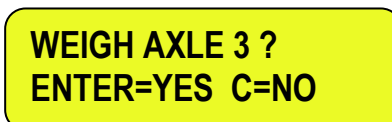
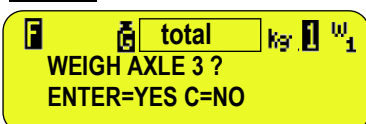
- After that, the indicator waits for the following axle.
- Drive and stop the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability.
- By pressing **ENTER**; the indicator acquires the axle weight, prints the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize, or press **C** to end the weigh; the indicator will display for an instant:

3590E:

LED display



LCD display

**CPWE:**

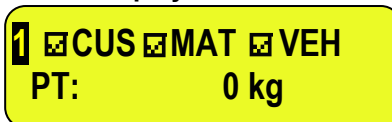
- By pressing **C** to end the weigh; the indicator will display for an instant the figures below.
- Then the indicator executes the cycle end printout, and then displays the total of the axles in the weight section (see section 5) for a few seconds:

3590E:

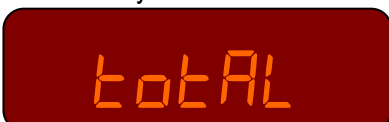
LED display



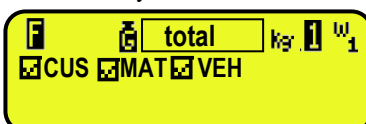
LCD display



alternatively to

**CPWE**

alternatively to



[In which: **XXXXXX** is the acquired overall weight value]

- At this point, it returns to the status of waiting to acquire the first axle (see first point).

13.2.2 AUTOMATIC STATIC AXLE WEIGHING

13.2.2.1 CONFIGURATION

- Set parameter in the SETUP: **F.ModE >> totAL >> AXLE W** on **"STATIC"**.
- If before was setted the **DYNAMIC** axes weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.

SET FILTER ?

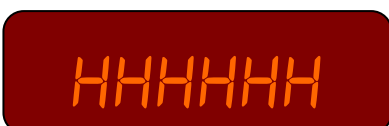
- For a correct functioning one should correctly set the weighing parameters in the **F.Mode >> total >> StA.CFG** menu of the Set-up environment or by a direct function 605, linked to a key. (See the **TECHNICAL MANUAL**):
 1. **"Min.Wei"** (minimum weigh of the axle);
 2. **"Stab.tm"** (Stability interval);
 3. **"tiME W"** (interval between cycles);
 4. **"Skip B."** (Beginning axes to skip);
 5. **"Skip E."** (Ending axes to skip);
 6. **"Err.En"** (Axle acquisition error enable);
 7. **"Tim.Out"** (Axle acquisition time out).

13.2.2.2 WEIGHING PROCEDURE

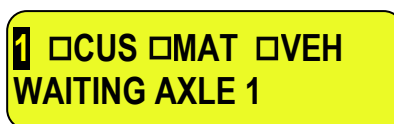
- As soon as the indicator has completely turned on and enters in the weighing status, it waits for the first axle, the indicator displays:

3590E

LED display



LCD display



CPWE

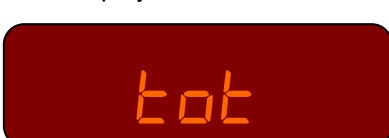


[In which: **XXXXXX** is the current weight on the scale]

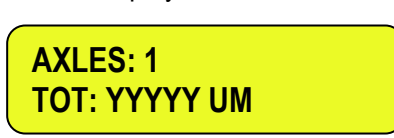
- Select, if requested, the customer / material / vehicle to be linked to the weigh.
- Drive and stop the first axle of the vehicle on the scale.
- Wait a few instants, the axle will be acquired when:
 - 1) the weight is greater than the minimum weight of the set axle in **<< Min.Wei>>** step.
 - 2) the weight is stable.
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

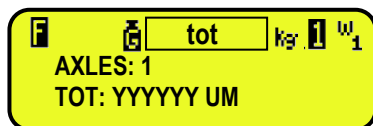
3590E

LED display



LCD display



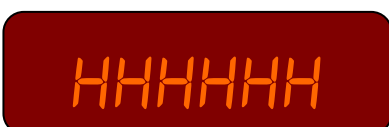
CPWE

[In which: **YYYYYY** is the acquired weight value, with unit of measure]

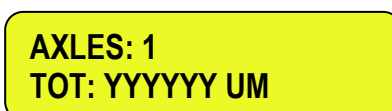
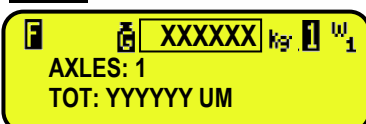
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set in the corresponds print formats):

3590E

LED display



LCD display

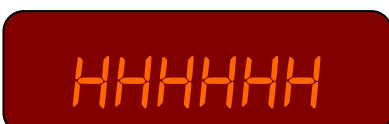
**CPWE**

[In which: **XXXXXX** is the acquired weight value blinking for about 2 seconds, then the current weight on the scale **YYYYYY** is the acquired weight value, with unit of measure]

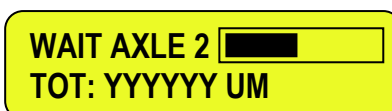
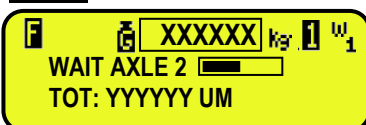
- After that the weight of the first axle has been successfully acquired, when the weight goes below the << **Min.Wei**>> step the indicator waits for the second axle, waiting the time setted in the << **tiME W**>> step:

3590E


LED display



LCD display

**CPWE**

[In which: **XXXXXX** is the current weight on the scale
YYYYYY UM is the acquired overall weight value with unit of measure]

 is an advancement bar which becomes colored in proportion to the set time interval between cycles]

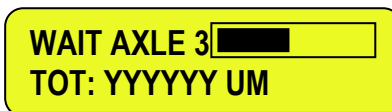
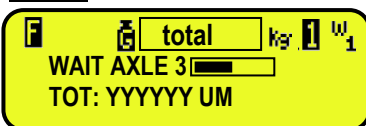
- Drive and stop on the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability; the indicator acquires the axle weight, prints the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed; after that the display shows an instant:

3590E

LED display



LCD display

**CPWE**

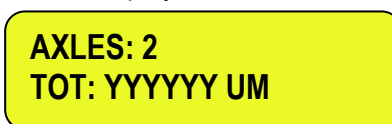
- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

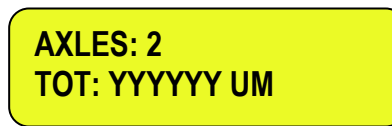
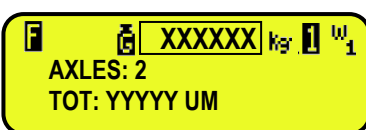
LED display



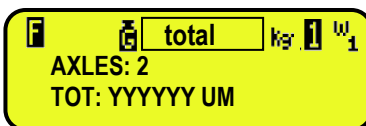
LCD display



alternatively to

**CPWE**

alternatively to

[In which: **XXXXXX** is the acquired overall weight value**YYYYYY UM** is the acquired overall weight value with unit of measure]

- At this point, it remains in this status (in this visualization), until you'll press the **F10** key, or until new values of weights are available for the weighings. After this it returns to the status of waiting to acquire the first axle (see first point).

13.2.3 AUTOMATIC DYNAMIC AXLE WEIGHING

13.2.3.1 CONFIGURATION

- Set parameter **SETUP F.Mode >> totAL >> AXLE W (RIF.MAN.T.)** on “dYnAMi”.
If before was setted the **MANUAL** or **STATIC** axles weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.

SET FILTER ?

For a correct functioning one should correctly set the weighing parameters in the **F.Mode >> total >> DYN.CFG** menu of the Set-up environment or by a direct function 605, linked to a key. (See the **TECHNICAL MANUAL**):

1. “**Min.Wei**” (Minimum weigh of the axle);
2. “**n.SMPLS**” (Average weight samples);
3. “**tiME W**” (Interval between cycles);
4. “**Skip B.**” (Beginning axles to skip);
5. “**Skip E.**” (Ending axles to skip);
6. “**Err.En**” (Axle acquisition error enable);
7. “**SPEED**” (Speed Limit in Km/h);
8. “**Tim.Out**” (Axle acquisition time out).
9. “**PL.Widt**” (Platform width);

13.2.3.2 WEIGHING PROCEDURE

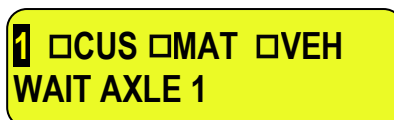
- As soon as the indicator has completely turned on and enters in the weighing status, it waits for the first axle and the indicator displays:

3590E

LED display



LCD display



CPWE



[In which: **XXXXXX** is the current weight on the scale]

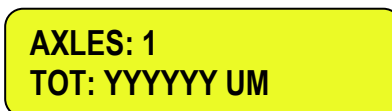
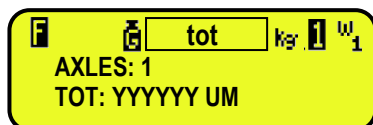
- Select, if requested, the customer / material / vehicle to be linked to the weigh.
- Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED**, avoiding braking while transiting on the scale.
- The axle will be acquired automatically if:
 - 1) The weight is greater than the set minimum weight of the axle setted in <<**Min.Wei**>> step.
 - 2) The detected weight is within the parameters of the dynamic weigh, which are set in <<**DIN.CFG**>>, (**TECH.MAN.REF.**).
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E

LED display



LCD display

**CPWE**[In which: **YYYYYY** is the acquired weight value, with unit of measure]

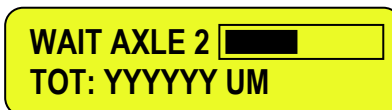
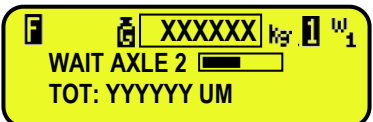
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set in the corresponds print formats):
- After that the weight of the first axle has been successfully acquired, when the weight goes below the <<Min.Wei>> step the indicator waits for the second axle, the time setted in the <<tiME W>> step:

3590E

LED display



LCD display

**CPWE**[In which: **XXXXXX** is the current weight on the scale**YYYYYY UM** is the acquired overall weight value with unit of measure]

is an advancement bar which becomes colored proportionally to the time interval set between cycles]

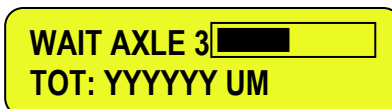
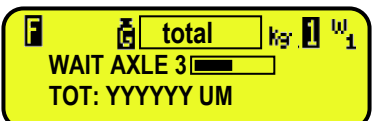
- Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED**, avoiding braking while transiting on the scale.
- The indicator acquires automatically the axle weight, shows the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed; after that the display shows an instant:

3590E

LED display



LCD display

**CPWE**

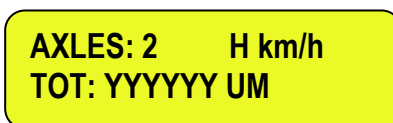
- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

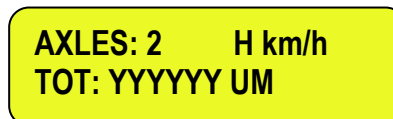
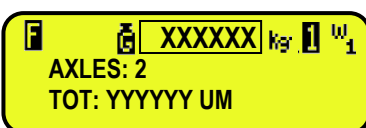
LED display



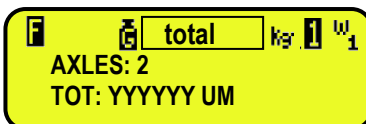
LCD display



alternatively to

**CPWE**

alternatively to



In which: **XXXXXX** is the acquired overall weight value;
H is the speed calculated;
YYYYYY UM is the acquired overall weight value with unit of measure.

At this point, it returns to the status of waiting to acquire the first axle (see first point).

13.3 INPUT-OUTPUT AXLE WEIGHING

In this functioning mode it is possible to get the weight of each axle with calculation of their total weight, first in input and after in output, and therefore determine the weight difference between the 2 total weighs.

The indicator links each input weigh **to the lowest available ID** (from 1 to 999); consequently, if an output weigh is executed correctly, the relative ID code will be made available for the following input weigh.

To enable this mode, one has to set the step **F.ModE >> totAL >> In.out** step on **"ENABLE"** in the setup (**TECH.MAN.REF.**).

Then it is possible to select how to recall the input weigh to execute the output weigh, with ID code or with License Plate of the truck weighed in input. This selection is done in the SETUP through the step **F.ModE >> totAL >> WEi.MEM.**

It's possible to have the ID code of the input weigh to be **always consequential**, therefore also if an ID lower than the last one stored is available, the ID code will follow the ID of the last stored input weigh.

To enable this function one has to set the **F.ModE >> totAL >> Pro.LSt** step in the set-up on **"ENABLE"**.

13.3.1 MANUAL AXLE WEIGHING

13.3.1.1 CONFIGURATION

- Set parameter SETUP **F.ModE >> totAL >> AXLE W** on **"MANUAL"**.
- If before was setted the **DYNAMIC** axles weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.

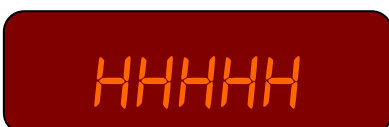
SET FILTER ?

13.3.1.2 INPUT WEIGHING PROCEDURE

- Select, if requested, the customer / material / vehicle to be linked to the input weigh.
- Drive and stop the first axle of the vehicle on the scale then press **F6** key to start the input weigh cycle and store the first axle weight.
- The indicator waits for stability and displays the following messages:

3590E

LED display



LCD display

ENTRY WEIGH



READING WEIGHT

CPWE



- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following messages:

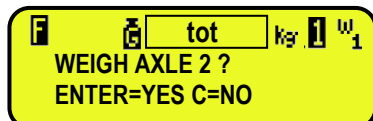
3590E

LED display



LCD display

WEIGH AXLE 2?
ENTER=YES C=NO

CPWE

- Then the acquired weight blinks for a few seconds in the weight section (see section 5), and the indicator executes the printout (if set):

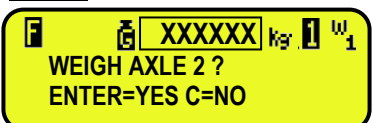
3590E

LED display



LCD display

WEIGH AXLE 2?
ENTER=YES C=NO

CPWE

[In which: **XXXXXX** is the acquired weight value blinking for about 2 seconds, and then the current weight on the scale]

- After that the indicator waits for the following axle.
- Drive and stop the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability.
- Press **ENTER**; the indicator acquires the axle weight and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- Press **C** to end the weigh; the indicator will display for an instant:

3590E

LED display

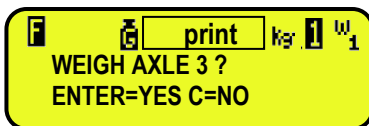
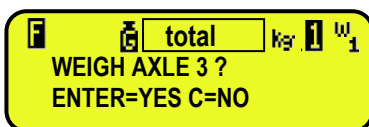


LCD display

WEIGH AXLE 3?
ENTER=YES C=NO



WEIGH AXLE 3?
ENTER=YES C=NO

CPWE

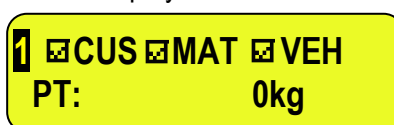
- Then the indicator executes the input cycle end printout, and then displays the total of the axles in the weight section (see section 5) for a few seconds:

3590E

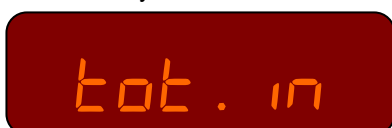
LED display



LCD display



alternatively to

**CPWE**

alternatively to

[In which: **XXXXXX** is the acquired overall weight value]

- At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.1.3 STARTING OUTPUT WEIGHING THROUGH ID CODE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on "**Wei.Cod**" in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- Drive and stop the first axle of the vehicle on the scale: then it's possible to proceed in two ways:

1) Directly type in the ID code and press F7

2) Press F7: one enters the menu of the "open" input weighs:

LCD display



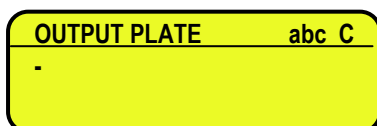
Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.1.4 STARTING OUTPUT WEIGHING THROUGH LICENSE PLATE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on “**PLAtE**” in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- Drive and stop the first axle of the vehicle on the scale.
- Press **F7**, the display shows:



- Then it's possible to proceed in two ways:

1) Enter the License Plate number and press **ENTER**

2) Press **ENTER**: one enters the menu of the “open” input weighs

LCD display



Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.1.5 OUTPUT WEIGHING PROCEDURE

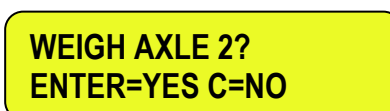
- After having selected the input weigh, the indicator waits for the stability, then acquire the weight, emits a sound and displays for an instant the following message:

3590E

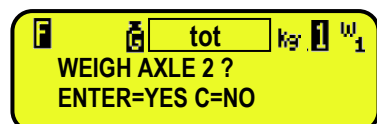
LED display



LCD display



CPWE



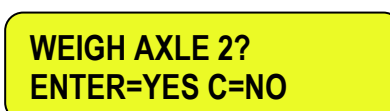
- Then the acquired weight blinks for a few seconds in the weight section (see section 5), and the indicator executes the printout (if set):

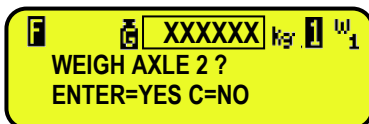
3590E

LED display



LCD display





[In which: **XXXXXX** is the acquired weight value blinking for about 2 seconds, then the current weight on the scale]

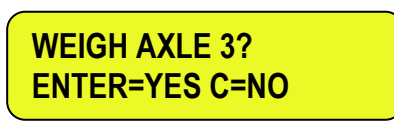
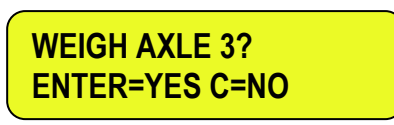
- After that the indicator waits for the following axle.
- Drive and stop the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability.
- Press **ENTER**; the indicator acquires the axle weight and asks again for the following axle weigh, and then for all the axles which one has already totalized in input.
- Press **C** to end the weigh; the indicator will display for an instant:

3590E

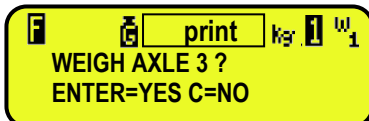
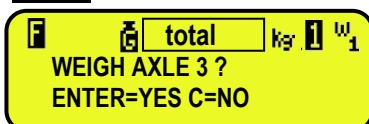
LED display



LCD display



CPWE



- Then the indicator executes the output cycle end printout, and then displays the total of the axles in the weight section (see section 5) for a few seconds:

3590E

LED display



LCD display



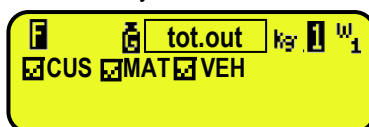
alternatively to



CPWE



alternatively to



[In which: **XXXXXX** is the acquired overall weight value]

- At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.2 AUTOMATIC STATIC AXLE WEIGHING

13.3.2.1 CONFIGURATION

- Set parameter in the SETUP: **F.ModE >> totAL >> AXLE W** on **"STATIC"**.
- If before was setted the **DYNAMIC** axes weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.

SET FILTER ?

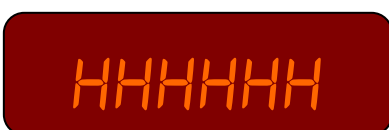
- For a correct functioning one should correctly set the weighing parameters in the **F.Mode >> total >> StA.CFG** menu of the Set-up environment or by a direct function 605, linked to a key. (See the **TECHNICAL MANUAL**):
 1. **"Min.Wei"** (minimum weigh of the axle);
 2. **"Stab.tm"** (Stability interval);
 3. **"tiME W"** (interval between cycles);
 4. **"Skip B."** (Beginning axes to skip);
 5. **"Skip E."** (Ending axes to skip);
 6. **"Err.En"** (Axle acquisition error enable);
 7. **"Tim.Out"** (Axle acquisition time out).

13.3.2.2 INPUT WEIGHING PROCEDURE

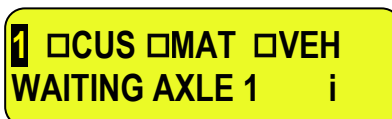
- Select, if requested, the customer / material / vehicle to be linked to the input weigh.
- Press the **F6** key in order to start the input weigh cycle.
- The instrument waits for the first axle and displays:

3590E

LED display



LCD display



CPWE



[In which: **XXXXXX** is the current weight on the scale
i means "input" weigh]

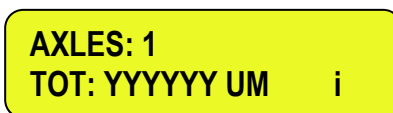
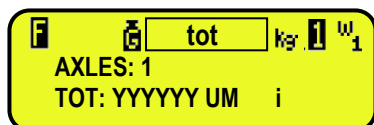
- Drive and stop the first axle of the vehicle on the scale.
- Wait a few instants, the axle will be acquired when:
 - 1) the weight is greater than the minimum weight of the set axle.
 - 2) the weight is stable.
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E

LED display



LCD display

**CPWE**

[In which: YYYYYY is the acquired weight value, with unit of measure]

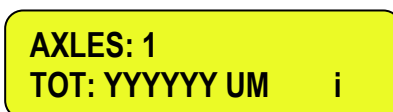
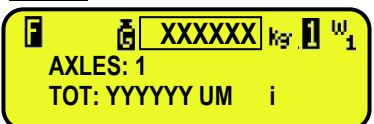
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set):

3590E

LED display



LCD display

**CPWE**[In which: XXXXXX is the acquired weight value blinking for about 2 seconds, then the current weight on the scale
YYYYYY is the acquired weight value, with unit of measure]

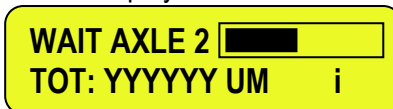

- When the weight goes under the minimum weight threshold of the axle, the indicator waits for the following axle:

3590E

LED display



LCD display

**CPWE**[In which: XXXXXX is the current weight on the scale
YYYYYY UM is the acquired overall weight value with unit of measure]
 is an advancement bar which becomes colored in proportion to the set time interval between cycles]


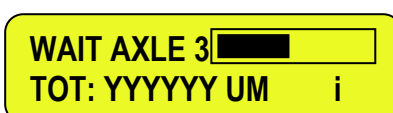
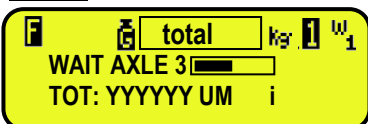
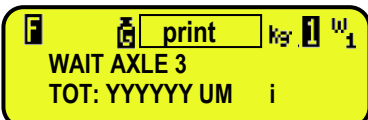
- Drive and stop the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability, the indicator acquires the axle weight, prints the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed; after that the display shows for an instant:

3590E

LED display




LCD display



CPWE



- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

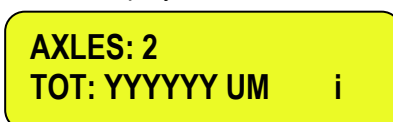
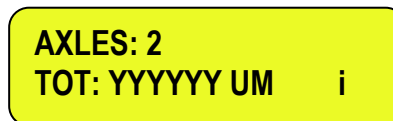
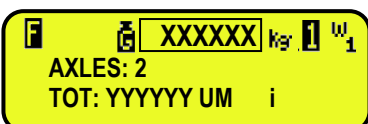
LED display



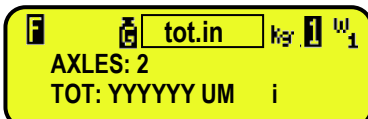
alternatively to



LCD display



CPWE


alternatively to



[In which: **XXXXXX** is the acquired overall weight value
YYYYYY UM is the acquired overall weight value with unit of measure]

At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.2.3 STARTING OUTPUT WEIGHING THROUGH ID CODE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on **"Wei.Cod"** in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- To select the input weigh it's possible to proceed in two ways:

1) **Directly type in the ID code and press F7**

2) **Press F7: one enters the menu of the "open" input weighs:**

LCD display

ID:	1
IN:	995kg

Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.2.4 STARTING OUTPUT WEIGHING THROUGH LICENSE PLATE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on **"PLAtE"** in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- Press **F7**, the display shows:

OUTPUT PLATE	abc C
-	

- Then it's possible to proceed in two ways:

1) **Enter the License Plate number and press ENTER**

2) **Press ENTER: one enters the menu of the "open" input weighs**

LCD display

CM884FK	
IN:	995kg

Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.2.5 OUTPUT WEIGHING PROCEDURE

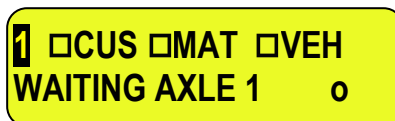
- After having selected the input weigh, the indicator waits for the first axle and displays:

3590E

LED display



LCD display

CPWE

[In which: **XXXXXX** is the current weight on the scale
o means “output” weigh]

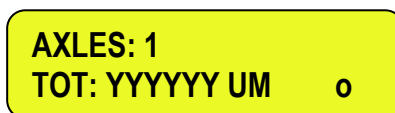
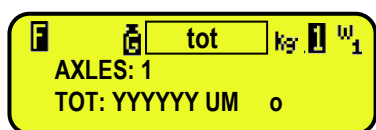
- Drive and stop the first axle of the vehicle on the scale.
- Wait a few instants, the axle will be acquired when:
 - 1) the weight is greater than the minimum weight of the set axle.
 - 2) the weight is stable.
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E

LED display



LCD display

CPWE

[In which: **YYYYYY** is the acquired weight value, with unit of measure]

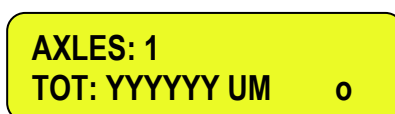
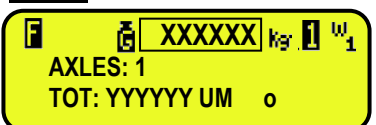
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set):

3590E

LED display



LCD display

CPWE

[In which: **XXXXXX** is the acquired weight value blinking for about 2 seconds, then the current weight on the scale
YYYYYY is the acquired weight value, with unit of measure]

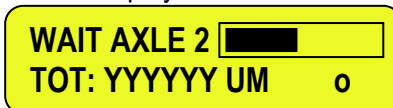
- When the weight goes under the minimum weight threshold of the axle, the indicator waits for the following axle:

3590E

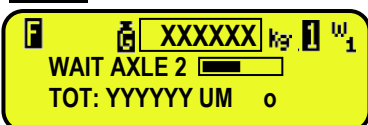
LED display



LCD display




CPWE



[In which: **XXXXXX** is the current weight on the scale

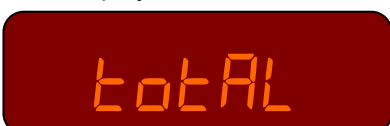
YYYYYY UM is the acquired overall weight value with unit of measure]

 is an advancement bar which becomes colored in proportion to the set time interval between cycles]

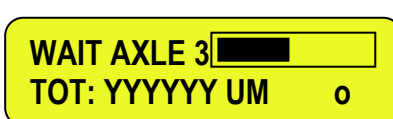
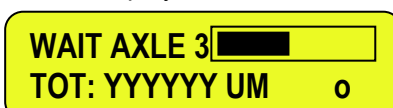
- Drive and stop the next axle of the vehicle on the scale.
- Wait a few instants for the weight stability, the indicator acquires the axle weight, prints the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed,; after that the display shows for an instant:

3590E

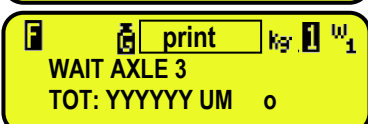
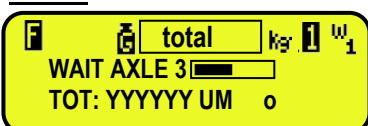
LED display



LCD display



CPWE



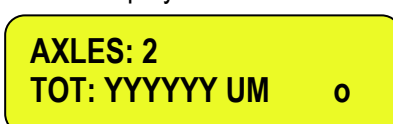
- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

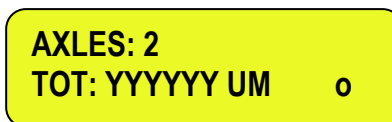
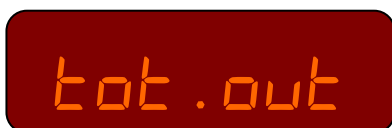
LED display



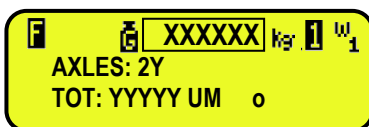
LCD display



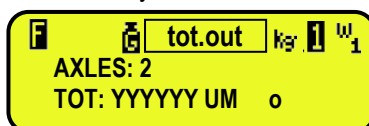
alternatively to



CPWE



alternatively to



[In which: **XXXXXX** is the acquired overall weight value

YYYYYY UM is the acquired overall weight value with unit of measure]

- At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.3 AUTOMATIC DYNAMIC AXLE WEIGHING

13.3.3.1 CONFIGURATION

- Set parameter in the SETUP: **F.Mode >> totAL >> AXLE W** on “**DYNAMIC**”.
- If before was setted the **STATIC** axles weighing, the indicator ask to set the filter of this weighing mode, press **FN/ENTER** to confirm.



- For a correct functioning one should correctly set the weighing parameters in the **F.Mode >> total >> StA.CFG** menu of the Set-up environment or by a direct function 605, linked to a key. (See the **TECHNICAL MANUAL**):
 1. “**Min.Wei**” (Minimum weigh of the axle);
 2. “**n.SMPLS**” (Average weight samples);
 3. “**tiME W**” (Interval between cycles);
 4. “**Skip B.**” (Beginning axles to skip);
 5. “**Skip E.**” (Ending axles to skip);
 6. “**Err.En**” (Axle acquisition error enable);
 7. “**SPEED**” (Speed Limit in Km/h);
 8. “**Tim.Out**” (Axle acquisition time out).
 9. “**PL.Widt**” (Platform width);

13.3.3.2 INPUT WEIGHING PROCEDURE

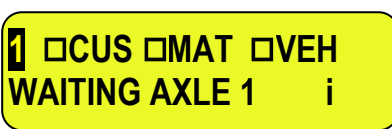
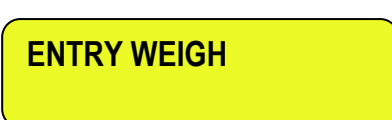
- Select, if requested, the customer / material / vehicle to be linked to the input weigh.
- Press the F6 key in order to start the input weigh cycle.
- The instrument waits for the first axle and displays:

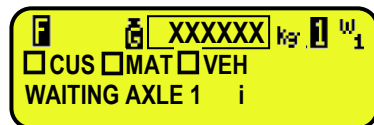
3590E

LED display



LCD display



CPWE

[In which: **XXXXXX** is the current weight on the scale
i means "input" weigh]

Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED**, avoiding braking while transiting on the scale.

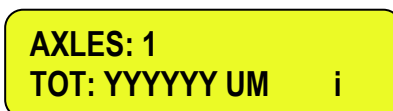
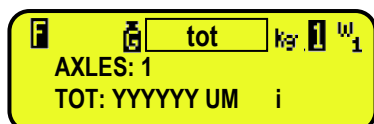
- The axle will be acquired automatically if:
 - 1) the weight is greater than the set minimum weight of the axle setted in **<<Min.Wei>>** step.
 - 2) the detected weight is within the parameters of the dynamic weigh, which are set in **<<DIN.CFG>>**, (**TECH.MAN.REF.**).
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E

LED display



LCD display

**CPWE**

[In which: **YYYYYY** is the acquired weight value, with unit of measure]

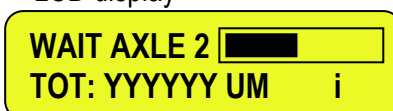
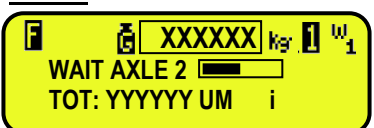
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set in the corresponds print formats):
- After that the weight of the first axle has been successfully acquired, when the weight goes below the **<<Min.Wei>>** step the indicator waits for the second axle, the time setted in the **<<tiME W>>** step:

3590E


LED display



LCD display

**CPWE**

[In which: **XXXXXX** is the current weight on the scale
YYYYYY UM is the acquired overall weight value with unit of measure]

 is an advancement bar which becomes colored in proportion to the set time interval between cycles]

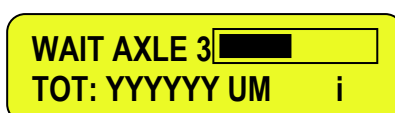
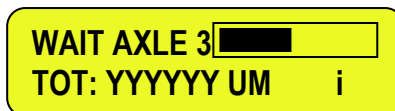
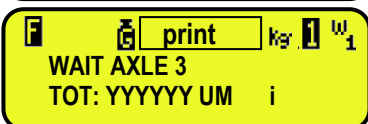
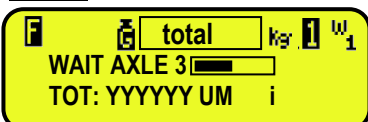
- Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED** , avoiding braking while transiting on the scale.
- The indicator acquires automatically the axle weight, shows the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed; after that the display shows an instant:

3590E

LED display



LCD display

**CPWE**

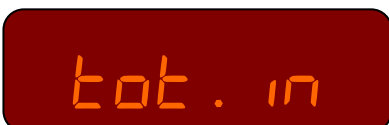
- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

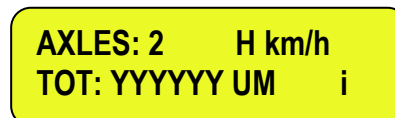
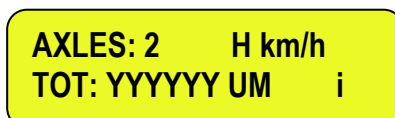
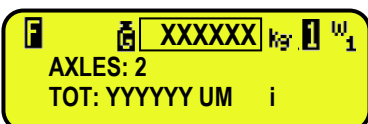
LED display



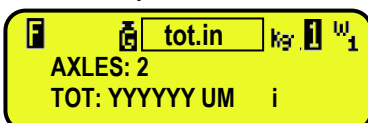
alternatively to



LCD display

**CPWE**

alternatively to



In which:

XXXXXX is the acquired overall weight value;**H** is the speed calculated;**YYYYYY UM** is the acquired overall weight value with unit of measure.

At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.3.3 STARTING OUTPUT WEIGHING THROUGH ID CODE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on **"Wei.Cod"** in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- To select the input weigh it's possible to proceed in two ways:

1) Directly type in the ID code and press F7

2) Press F7: one enters the menu of the "open" input weighs:

LCD display



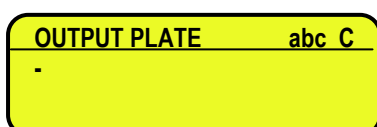
Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.3.4 STARTING OUTPUT WEIGHING THROUGH LICENSE PLATE

To enable this mode, one has to set the step **F.ModE >> totAL >> WEi.MEM** on **"PLAtE"** in the setup (**TECH.MAN.REF.**).

Procedure

- Select, if requested, the customer / material / vehicle to be linked to the output weigh.
- Press **F7**, the display shows:



- Then it's possible to proceed in two ways:

1) Enter the License Plate number and press ENTER

2) Press ENTER: one enters the menu of the "open" input weighs

LCD display



Select the desired weigh using the arrow keys ▲ ▼ .
Confirm with **ENTER** or press **C** to exit.

13.3.3.5 OUTPUT WEIGHING PROCEDURE

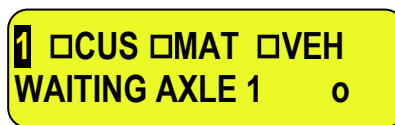
- After having selected the input weigh, the indicator waits for the first axle and displays:

3590E

LED display



LCD display



CPWE



[In which: **XXXXXX** is the current weight on the scale
o means "output" weigh]

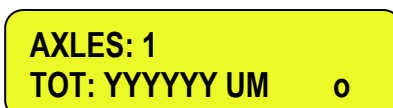
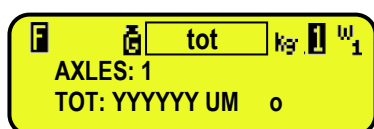
- Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED**, avoiding braking while transiting on the scale.
- The axle will be acquired automatically if:
 - 1) The weight is greater than the set minimum weight of the axle setted in **<<Min.Wei>>** step.
 - 2) The detected weight is within the parameters of the dynamic weigh, which are set in **<<DIN.CFG>>**, (**TECH.MAN.REF.**).
- After the weight of the first axle is acquired, the indicator emits a sound and displays for an instant the following message:

3590E

LED display



LCD display

**CPWE**[In which: **YYYYYY** is the acquired weight value, with unit of measure]

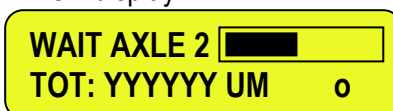
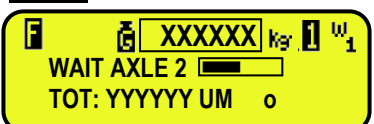
- Then the acquired weight blinks for a few seconds and the indicator executes the printout (if set in the corresponds print formats):
- After that the weight of the first axle has been successfully acquired, when the weight goes below the **<<Min.Wei>>** step the indicator waits for the second axle, the time setted in the **<<tiME W>>** step:


3590E

LED display



LCD display

**CPWE**[In which: **XXXXXXX** is the current weight on the scale**YYYYYY UM** is the acquired overall weight value with unit of measure]

 is an advancement bar which becomes colored in proportion to the set time interval between cycles]

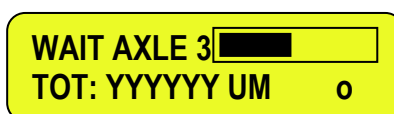
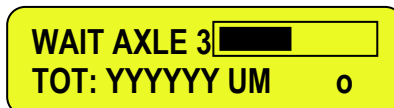
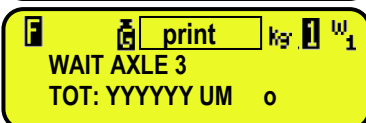
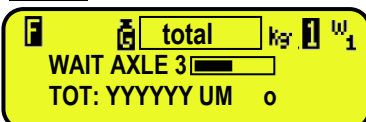
- Transit with the first axle of the vehicle on the scale in the limits of speed setted in the **DYN.CFG >> SPEED** , avoiding braking while transiting on the scale.
- The indicator acquires automatically the axle weight, shows the acquired value and asks again for the following axle weigh, and then for all the axles which one wants to totalize.
- The cycle ends when the weight is not acquired during the time interval between cycles, or when **F9** key is pressed; after that the display shows an instant:

3590E

LED display



LCD display

**CPWE**

- Then the indicator executes the end cycle printout, and then displays the total of the axles for a few seconds:

3590E

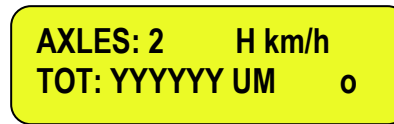
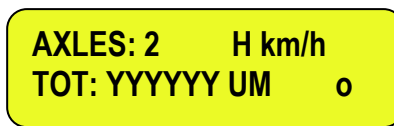
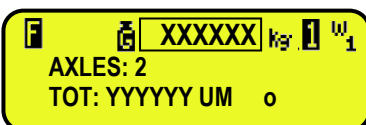
LED display



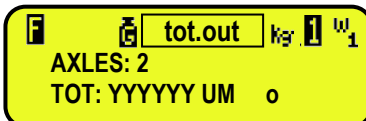
alternatively to



LCD display

**CPWE**

alternatively to



In which: **XXXXXX** is the acquired overall weight value;
H is the speed calculated;
YYYYYY UM is the acquired overall weight value with unit of measure.

At this point, it returns in the status of waiting for the input or output weighing cycle start.

13.3.3.6 SELECTING INPUT OR OUTPUT BEFORE OR AFTER HAVING ACQUIRED THE AXLES

In the dynamic axle weighing it is possible to decide to acquire the weight of all the axles and after that, decide where the total weight will be totalized (in input or in output), or leave the functioning as usual so that the operator is forced to execute the selection to allow starting the cycle.

By selecting the first option, the scale is always ready to weigh without being forced to press a key on the scale before the acquisition, but with possibility to do it at any time (before or after).

The choice of the operating mode is done in the setup environment (<<i.o.SEL>> step, **TECH.MAN.REF.**).

13.3.4 NOTES ON THE INPUT WEIGHING

- If the weighing mode through Plate has been selected, one must select a vehicle, otherwise the indicator will show on the LCD display "LICENSE PLATE NOT PRESENT" and will emit a prolonged sound; then it cancels the weigh and returns to weighing.
- If you want to execute the input weight without enter (and using) the VEHICLES database, it is necessary disable this database from the step: **F.MODE >> DTB >> ABIL.V** and also it is necessary select **PLATE** in **F.MODE >> TOTAL >> WEI.MEM**, once pressed the **F6** key (input weighing), the indicator ask "INPUT PLATE". Once inserted the plate, the indicator enable the input weight.
- If there is a tare, a **SINGLE WEIGH** is executed, therefore **no ID code is occupied**. See section 13.3.4.
- If all the 999 memory storages are occupied without executing any output weigh, upon the execution of the following input weigh, the indicator shows the message "WEIGHS MEMORY FINISHED"; one must execute at least one output weigh in order to free up the memory to be used or cancel all the memory storage.
- If the input weigh has been made with a selected vehicle, one should execute the output weigh in order to use again the same vehicle in a new input weigh (the LCD display shows "LICENSE PLATE ALREADY IN" by trying to weigh the same vehicle in input without having carried out its output).

13.3.5 NOTES ON THE OUTPUT WEIGH

- If there is a tare, a **SINGLE WEIGH** is executed.
- **By entering an ID code not yet linked to a weigh**, the indicator shows on the LCD display "MEMORY IS EMPTY" and emits a prolonged sound; then it cancels the weigh and returns to weighing.
- **By entering the ID code of an already executed weigh**, the indicator will show:

**WEIGH ALREADY
DONE, CONTINUE?**

Confirm with **ENTER** or press another key to cancel.

- **By entering an incorrect license plate or not linked to a weigh**, the indicator will show on the LCD display "LICENSE PLATE NOT PRESENT" emitting a prolonged sound; then it will cancel the weigh and return to weighing.
- If no input weigh has been made, if one then enters the menu of the "open" weighs, the indicator will show on the LCD display "NO INPUT WEIGH OPEN" and will emit a prolonged sound; then it will cancel the weigh and return to weighing.

13.3.6 DETERMINATION OF THE TRUCK'S NET WEIGHT BY SUBTRACTING THE PRESET TARE

Premise: This function is available if the input/output weighing mode is enabled.

If a manual tare has manually been set or recalled by selecting a vehicle (see section 7), the indicator automatically subtracts it from the total weight accumulated, as long as it is not greater than it, at the end of the axle totalization cycle.

The indicator will print the total weight accumulated (Gross Weight), the manual tare identified with "PT" (Preset Tare) and the weight difference (Net Weight).

It is possible to choose if the weight difference should be accumulated in the total weight in input or in the total weight in output.

- To accumulate it in the total input weight, one has to carry out the axle totalization as for the standard input weigh, by pressing the **F6** key after having entered a tare value(see section 7); the procedure is therefore the same as the input weighing (see section 13.3.1.2, 13.3.2.2 or 13.3.2.3 depending on the acquisition mode).

- To accumulate the weight difference in the total output weight, one has to carry out the axle totalization as for the standard input weigh but by pressing the **F7** key after having entered a tare value(see section 7); the procedure will be as for the input weighing (see section 13.3.1.2, 13.3.2.2 or 13.3.2.3 depending on the acquisition mode) but the weight difference will be accumulated in output.

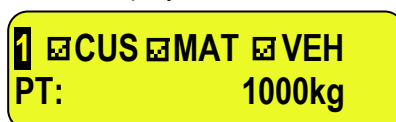
If the manual axle totalization mode is set, the display shows the tare value, identified with "PT", before the weighing procedure:

3590E

LED display



LCD display



CPWE



[In which: **XXXXXX** is the weight value]

13.3.7 DELETING ALL THE INPUT MEMORY STORAGES

Through the **426** function, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to cancel all the memory storages.

The display shows "**Sure?**", press **ENTER** to confirm or another key to return in the cycle.

13.4 FUNCTIONS OF THE AUTOMATIC AXLE WEIGHING CYCLE (STATIC OR DYNAMIC)

13.4.1 CANCELLING OF THE CYCLE






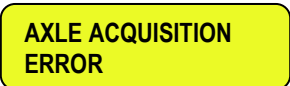


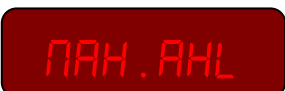
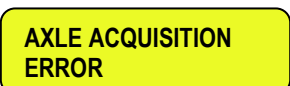

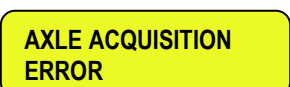
During the automatic weighing cycle, one can cancel all by pressing the **F10** key: the display shows "**Sure?**" and "CANCEL WEIGHING CYCLE?". Press **ENTER** to confirm or another key to return in the cycle.

13.4.2 ERRORS ON THE AUTOMATIC AXLES WEIGHT ACQUISITION

13.4.2.1 ERROR ON THE DYNAMIC AXLES WEIGHT ACQUISITION

Error messages that can be displayed on the instrument, if there is an axles error (if the step <<ERR.EN>> = **ENABLE**):

3590E Visualizations

		If the vehicle has passed over the maximum speed allowed setted in <<SPEED>> step.
		If the vehicle has passed under the minimum speed allowed (< 1 km/h).
		If the vehicle stopped on the platform.
		If the weight has passed the capacity of the scale.
		If the maximum number of axles is reached.
		The instrument is unable to compute the axle weight

13.4.2.2 ERROR ON THE STATIC AXLES WEIGHT ACQUISITION

3590E Visualizations

		If the weight has passed the capacity of the scale.
		If the maximum number of axles is reached.
		The instrument is unable to compute the axle weight
		The vehicle unload the platform, before that the axle weighing acquisition is captured

Furthermore an output can be enabled until the next axle is acquired or the error is reset (see following function), in order to inform the operator about the error. See “axle acquisition error” function in the section 15.6.

13.4.3 RESET OF THE ERROR AXLE IN THE DYNAMIC CYCLE

In case of error acquisition, normally the total is cancelled (the printout of the total will also not be made). If the error takes place on one of the axles that is set to not be totalised (see section 13.5), this error will not be taken into consideration. Through the function **602** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to reset the error so that the axle will not be taken into consideration: by pressing the linked key after the error, the total will be not cancelled, the printout of the total will be made at the end of the procedure and if an output is set on the “axle acquisition error” function (see section 15.6), it will be disabled.

13.4.4 MANAGING AN INPUT FOR THE CYCLE START/END

The beginning and the end of the weighing cycle can be defined, respectively, from the enabling and disabling of an external input, instead of automatically done by time.

This can be useful for example if one needs to start the cycle through a photocell placed before the weighing area and stop it with another photocell after, or with external buttons/remote controls.

In order to enable this type of management, one has to set **ZERO** seconds in the **F.Mode >> total >> StA.CFG >> tiME W** step (interval between cycles), and “**Aut.cyc**” function in an input (in the set-up environment, **TECH.MAN.REF.**).

13.4.5 MANAGING THE OUTPUTS

It is possible to enable the functioning of the outputs in order to guide the driver during the axle weighing cycle, for example enable an output:

- when the cycle has been finished,
- during the axle acquisition to inform that the weight is not yet acquired and therefore not yet stable,
- when the axle is acquired to inform the driver to go on,
- when an acquisition error has been occurred (see section 13.4.2).

The list of the available functions are described in detail at section

13.4.6 PAUSE AXLES CAPTURING

It is possible to enable the functioning to put in PAUSE the axle computation during the dynamic or static weighing cycle. This is possible through the function **607** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**)

13.5 SETTING AXLES SO THAT THESE ARE NOT TOTALISED

If the automatic weighing has been configured, it is possible to set a number of axles to not be totalised at the beginning and/or at the end of the weighing cycle.

This is useful to weigh for example only the trailer, or when there are problems to acquire the weight of an axle that is not really required.

It is possible to set the number of the axles in the setup environment (<<**SKIP B**>> and <<**SKIP E**>> step, **TECH.MAN.REF.**) so that these are automatically activated upon each start-up, and/or change them in weighing phase with the following function:

- Through function **603**, combinable with the desired key (<<**F.KEYS**>> step, **TECH.MAN.REF.**), it's possible to set the number of axles to not be totalised at the beginning of the cycle. Set the value and press **ENTER**.
- Through function **604**, combinable with the desired key (<<**F.KEYS**>> step, **TECH.MAN.REF.**), it's possible to set the number of axles to not be totalised at the end of the cycle. Set the value and press **ENTER**.

The set values in weighing phase are not saved in a permanent manner, but are substituted with each start-up from the values set in the setup.

13.6 ADDITIONAL TARE FUNCTION

This function is useful if one wants to calculate the loaded/unloaded weight at the net of a tare added to the weight of the vehicle taken into consideration.

By enabling the function in the **F.ModE >> totAL >> Add.tAr** step, it's possible to have that, upon the output weigh, one is asked to enter an additional tare, which will be subtracted from the loaded/unloaded weight value in the weigh.

After the pressing of the **F7** key and the selection of the "open" weigh in input, one enters the calculator environment (the LCD display shows the message "ADDITIONAL TARE").

Procedure:

With the numerical keyboard enter the first value then

- Press **Fn** in order to consider this value as an additional tare

or

- Press **F1** to add, **F2** to multiply, **F3** to subtract:
 - With the numeric keyboard enter the second value of the operation.
 - **PRESS ENTER:** the result will be shown for a few seconds on the display and considered as additional tare.

The "CALCULATOR" print function will not be executed, but one proceeds with the printing of the output weigh, in which it is possible to print also the additional tare.

The additional tare is automatically subtracted from the loaded or unloaded weight.

13.7 REENABLING THE WEIGH

After having weighed an axle, in order to weigh a new one, the displayed weight must pass by zero or it becomes unstable. This setting is carried out in the SET-UP environment in the **F.Mode >>rEAct.** parameter (**TECH.MAN.REF.**).

At the moment of the weight acquisition, the LCD display shows:

**WEIGHT NOT PASS.
BY 0 OR INSTAB.**

and

**ENTER=TRY AGAIN
C=CANCEL**

In any case it is possible to exclude this type of check: one should therefore set "ALWAYS" in the **F.Mode >> totAL >> t.ModE** step, (**TECH.MAN.REF.**).

13.8 WEIGHT THRESHOLDS FOR EXECUTING THE WEIGH

It is possible to establish a weight interval (in between 0 and the scale capacity) for executing a simple weigh or an input/output weigh; outside this interval, the operation is not accepted (when the **F6** or **F7** key is pressed the LCD display shows the "WEIGHT OUT OF THRESHOLD" message for a few seconds.

- Through the **500** function, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to access the "thr.hi" menu (Maximum Threshold Setting): set the upper totalisation threshold and press **ENTER**.
- Through the **501** function, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to access the "thr.Lo" menu (Minimum Threshold Setting): set the lower totalisation threshold and press **ENTER**.

NOTES:

- By setting 0 in the maximum threshold, it's possible to totalise up to the maximum capacity of the scale.
- By setting 0 in both thresholds, the functions are disabled.
- The totalisation field is valid for all totalisation types (input/output and single weigh).

13.9 VISUALISATION AND CLEARING OF THE ACCUMULATED TOTALS

Each total can be momentarily viewed on the display or cleared independently through the printout, linking the corresponding function to the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**):

TOTAL	FUNCTION CODE FOR VISUALISATION	FUNCTION CODE FOR RESETTING
PARTIAL TOTAL	416	418
GENERAL TOTAL	419	421
GRAND TOTAL	422	424
CUSTOMER TOTAL	404	406
MATERIAL TOTAL	408	410
VEHICLE TOTAL	412	414
ALL CUSTOMERS TOTAL	-	407
ALL MATERIALS TOTAL	-	411
ALL VEHICLES TOTAL	-	415
ALL SCALE TOTALS (partial total, general total, grand total)	-	425
ID CODES	-	426

By recalling one of the clearing functions, the instrument requests a confirmation before proceeding with the cancellation: press **ENTER** to clear, **C** for continuing to accumulate.

It's possible to disable the confirmation request, in the **F.Mode >> totAL >> rESet** step, **TECH.MAN.REF.**

In case of visualisation of the total, the instrument automatically exits the function after a few seconds.

NOTES:

- The weight data of the cleared total will be updated only with the subsequent input/output weigh or single weigh.
- There is a total for EACH CUSTOMER, MATERIAL AND VEHICLE USED.

The other totals are GENERIC, and can be cleared INDEPENDENTLY ONE FROM THE OTHER (i.e. if one clears the Grand total, with the following input/output weigh, the other totals will continue to increment, while the Grand total will restart from 0). By clearing the weighs' list one obtains the clearing of all the "open" input weighs: By carrying out this operation all the weighing operations under way are cancelled.

13.10 PROGRESSIVES

13.10.1 PROGRESSIVE DIGITS

Through function **401**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to set the number of digits with which the TICKET PROGRESSIVE and LOT PROGRESSIVE are printed.

The number of settable digits varies from 4 to 16, organised in this way:

- if the actual digits of the total are less than the number of digits set in this step, the difference is filled with some spaces.
- if the actual digits are greater than the number of digits set in this step, only the ones actually entered are taken into consideration (counting from right to left).

The alignment of the total fields is on the left.

NOTE: The number of settable digits DOES NOT INCLUDE the comma.

13.10.2 TICKET PROGRESSIVE

Through function **402**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), it's possible to modify or clear the TICKET PROGRESSIVE (up to 5 digits).

The TICKET PROGRESSIVE is a progressive number which increments of one UPON THE FIRST TOTALISATION SUBSEQUENT TO THE CLEARING OF THE PARTIAL TOTAL.

13.10.3 LOT PROGRESSIVE

Through function **403**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), one obtains the clearing of the AUTOMATIC LOT (up to 6 digits); before carrying out the actual clearing, one is asked to confirm or cancel the operation; confirm with **ENTER**.

The AUTOMATIC LOT is a progressive number which increments of one UPON THE FIRST TOTALISATION SUBSEQUENT TO THE CLEARING OF THE GENERAL TOTAL.

14. PRINTOUTS

The instrument is fitted with different print functions, which may be used while weighing, and of 30 print formats, in other words, 30 different memory storages, each of which contain a programmable printout.

The printouts executed by some of these functions depends on the print format linked to it; see the following section for the linkages. The format linking function allows executing various printouts, by changing the linked format each time.

The available functions are:

SIMPLE PRINTOUT

- Programmable printout -

Through the **F5** key one prints the linked format, **without executing the input/output weigh or single weigh**.

With the APPROVED instrument:

- The printing works if there is a NET WEIGHT of at least 20 divisions.
- The printout is reenabled depending on how the **F.Mode >> rEACt** parameter has been programmed in the TECHNICAL SET-UP (**TECH.MAN.REF.**).
- The simple print function excludes the totalisation and vice versa.

With the NON APPROVED instrument:

- The printing works if there is a NET WEIGHT greater than zero.
- The simple printout does not exclude the totalisation and is always active (the programming of the **F.Mode >> rEACt** parameter of the TECHNICAL SET-UP **TECH.MAN.REF.** is not taken into consideration).

SIMPLE AXLE WEIGHING REPORT

- Programmable printouts -

If the input/output function is disabled, through the following print functions, it is possible to create a report of the simple axle weighing made, by printing a heading, the weight of each weighed axle.

See section 13.2 for the procedure to execute the simple weigh.

TOTALIZATION FIRST AXLE

- Programmable printout -

The first axle totalization (manual with **F6** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.12 function.

TOTALIZATION NEXT AXLE

- Programmable printout -

The next axle totalizations (manual with **ENTER** key or automatic depending on the totalization mode) cause the printing of the format linked to the S.F.13 function.

AXLE TOTAL

- Programmable printouts -

The end of the axle totalization (manual with **C** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.14 function.

INPUT AXLE WEIGHING REPORT

- Programmable printouts -

If the input/output function is enabled, through the following print functions, it is possible to create a report of the input axle weighing made, by printing an heading, the weight of each weighed axle.

See section 13.3 for the procedure to execute the input weigh.

TOTALIZATION FIRST AXLE

- Programmable printout -

The first axle totalization (manual with **F6** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.12 function (function used also in the output axle weighing).

TOTALIZATION NEXT AXLE

- Programmable printout -

The next axle totalizations (manual with **ENTER** key or automatic depending on the totalization mode) cause the printing of the format linked to the S.F.13 function (function used also in the output axle weighing).

AXLE TOTAL AND INPUT AXLE WEIGHING END

- Programmable printouts -

The end of the axle totalization (manual with **C** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.14 function (function used also in the output axle weighing) and then of the format linked to the S.F.06 function.

OUTPUT AXLE WEIGHING REPORT

- Programmable printouts -

If the input/output function is enabled, through the following print functions, it is possible to create a report of the output axle weighing made, by printing a heading, the weight of each weighed axle.

See section 13.3 for the procedure to execute the output weigh.

TOTALIZATION FIRST AXLE

- Programmable printout -

The first axle totalization (manual with **F7** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.12 function (function used also in the input axle weighing).

TOTALIZATION NEXT AXLE

- Programmable printout -

The next axle totalizations (manual with **ENTER** key or automatic depending on the totalization mode) cause the printing of the format linked to the S.F.13 function (function used also in the input axle weighing).

AXLE TOTAL AND OUTPUT AXLE WEIGHING END

- Programmable printouts -

The end of the axle totalization (manual with **C** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.14 function (function used also in the input axle weighing) and then of the format linked to the S.F.07 function.

REPORT OF THE INPUT/OUTPUT WEIGHING WITH PRESET TARE

- Programmable printouts -

If the input/output function is enabled and a preset tare has been set, through the following print functions, it is possible to create a report of the axle weighing made, by printing a heading, the weight of each weighed axle and the weight difference between the total weight and the preset tare.

See section 13.3.6 for the procedure to execute the input/output weigh with preset tare.

TOTALIZATION FIRST AXLE

- Programmable printout -

The first axle totalization (manual with **F7** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.12 function (function used also in the input axle weighing).

TOTALIZATION NEXT AXLE

- Programmable printout -

The next axle totalizations (manual with **ENTER** key or automatic depending on the totalization mode) cause the printing of the format linked to the S.F.13 function (function used also in the input axle weighing).

AXLE TOTAL AND END OF THE IN./OUT. AXLE WEIGHING WITH PRESET TARE

- Programmable printouts -

The end of the axle totalization (manual with **C** key or automatic depending on the totalization mode) causes the printing of the format linked to the S.F.14 function (function used also in the input axle weighing) and then of the format linked to the S.F.05 function.

CUSTOMER TOTAL

- Programmable printout -

By pressing the **2nd F** key followed by **F1**, the CUSTOMER TOTAL is printed and then cleared as well as the printing of the format linked to the **S.F.08** function. Please find below the default printout:

DESCRIPTION1

DESCRIPTION2

DESCRIPTION3

TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weighs carried out**).

TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weighs carried out**).

NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).

WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weighs carried out.

MATERIAL TOTAL

- Programmable printout -

By pressing the **2nd F** key followed by **F2**, the MATERIAL TOTAL is printed and then cleared as well as the printing of the format linked to the **S.F.09** function. Please find below the default printout:

DESCRIPTION1

DESCRIPTION2

TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weighs carried out**).

TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weighs carried out**).

NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).

WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weighs carried out.

VEHICLE TOTAL

- Programmable printout -

By pressing the **2nd F** key followed by **F3**, the VEHICLE TOTAL is printed and cleared as well as the printing of the format linked to the **S.F.10** function. Please find below the default printout:

DESCRIPTION

PLATE

TARE

TOTAL INPUT WEIGHT = net weight of the quantity which has entered in the factory (in other words the sum of the net weights greater than zero [so with the input weight greater than the output weight], **of all the pairs and of the single weighs carried out**).

TOTAL OUTPUT WEIGHT = net weight of the quantity which has left the factory (in other words the sum of the net weights less than zero [so with the input weight less than the output weight], **of all the pairs and of the single weighs carried out**).

NET TOTAL = the net of all transactions (TOTAL OUTPUT WEIGHT minus the TOTAL INPUT WEIGHT).

WEIGHS TOTAL = number of weigh pairs (input weigh with relative output weigh) and of all the single weighs carried out.

PARTIAL TOTAL

- Programmable printout -

By pressing the **F8** key the PARTIAL TOTAL is printed and then cleared as well as the printing of the format linked to the **S.F.02** function.

GENERAL TOTAL

- Programmable printout -

Through function **115**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), the GENERAL TOTAL is printed and then cleared as well as the printing of the format linked to the **S.F.03** function.

GRAND TOTAL

- Programmable printout -

Through function **116**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), the GRAND TOTAL is printed and then cleared as well as the printing of the format linked to the **S.F.04** function.

START-UP PRINTOUT

- Programmable printout -

When turning on the indicator, the printout of the format linked to the **S.F.11** function is made; this function can be used, for example, to unlock the pincers of the TM295 printer (when this last is turned on the pincers are always locked).

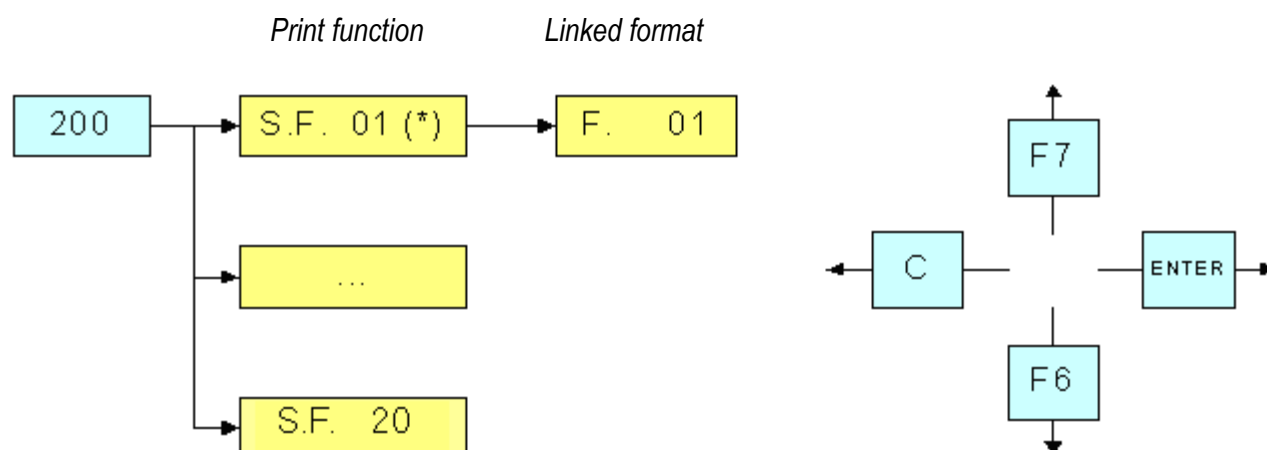
CALCULATOR RESULT

- Programmable printout -

Once terminated the operation with the "CALCULATOR" function, the format linked to the **S.F.12** function is printed. See section 15.3.

14.1 LINKING OF THE FORMATS TO THE PRINT FUNCTIONS

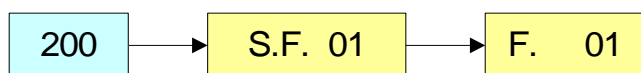
Through function **200**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), one accesses the linking of the print formats (configurable in the **SEtUP >> SEriAL >> Prn.FMt** step **TECH.MAN.REF.**) to the 12 programmable print functions:



Print function		Key	Linked step
SIMPLE PRINTOUT		F5	S.F. 01
SIMPLE AXLE WEIGHING REPORT (see section 13.2)	TOTALIZATION FIRST AXLE	F6 (input/output function disabled)	S.F. 12
	TOTALIZATION NEXT AXLE		S.F. 13
	AXLE TOTAL		S.F. 14
INPUT AXLE WEIGHING REPORT (see section 13.3)	TOTALIZATION FIRST AXLE	F6 (input/output function enabled)	S.F. 12
	TOTALIZATION NEXT AXLE		S.F. 13
	AXLE TOTAL		S.F. 14
	INPUT AXLE WEIGHING END		S.F. 06
OUTPUT AXLE WEIGHING REPORT (see section 13.3)	TOTALIZATION FIRST AXLE	F7 (input/output function enabled)	S.F. 12
	TOTALIZATION NEXT AXLE		S.F. 13
	AXLE TOTAL		S.F. 14
	OUTPUT AXLE WEIGHING END		S.F. 07
REPORT OF THE INPUT/OUTPUT WEIGHING WITH PRESET TARE (see section 13.3.6)	TOTALIZATION FIRST AXLE	F6 or F7 with Preset Tare (input/output function enabled)	S.F. 12
	TOTALIZATION NEXT AXLE		S.F. 13
	AXLE TOTAL		S.F. 14
	END OF THE IN/OUT AXLE WEIGHING WITH PRESET TARE		S.F. 05
PARTIAL TOTAL		F8	S.F. 02
GENERAL TOTAL		Function 115 to combine with the desired key	S.F. 03
GRAND TOTAL		Function 116 to combine with the desired key	S.F. 04
CUSTOMER TOTAL		2nd F followed by F1	S.F. 08
MATERIAL TOTAL		2nd F followed by F2	S.F. 09
VEHICLE TOTAL		2nd F followed by F3	S.F. 10
START-UP PRINTOUT		Automatic entry at start-up	S.F. 11
CALCULATOR (see section 15.3)		Automatic entry	S.F. 15

TO LINK THE FORMAT:

- Recall function **200**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**).



- The LCD display shows:

S.F. XX in which:

XX indicates the number of the function (from 01 onwards) to which the print format is linked.

- Select the print function (for example S.F. 01) through the arrow keys ▲ ▼ and press the **ENTER** key.
- Once entered, the display shows:

XX in which:

XX indicates the number of the format to be linked.

- Type the format number and press **ENTER**.

NOTE: In order to not link any format to a vector one should enter the number 00.

14.1.1 QUICK LINKING OF THE FORMATS

By linking the number of a specific print function to the function **200** (preamble function in the << **F.KEYS** >> step, **TECH.MAN.REF.**), it is possible to access directly to the modification of it with a direct key, for example F1 key to quickly link the S.F. 1, and F2 key to quickly link the S.F. 2.

Furthermore for some print functions the desired formats can be quickly linked by setting directly the corresponding code (function) to the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**) without having to program the preamble:

CODE	QUICK LINKING FUNCTION	PRINT FUNCTION
200	Format linking to the Simple Printout (Prn.Fmt)	S.F. 01
201	Format Linking to the Partial Total Printout (SND.FMT)	S.F. 02
309	Format Linking to the Input Axle Weighing Printout (FM.IN)	S.F. 06
310	Format Linking to the Output Axle Weighing Printout (FM.OUT)	S.F. 07
311	Format Linking to the Simple Axle Weighing Printout (FM.SING)	S.F. 05

TO QUICK LINK THE FORMAT:

- Recall the desired print function, by pressing the linked key (<< **F.KEYS** >> step, **TECH.MAN.REF.**).

- The LCD display shows:

XX in which:

XX indicates the number of the format to be linked.

- Type the format number and press **ENTER**.

NOTE: In order to not link any format to a print function one should enter the number 00.

14.2 NUMBER OF TICKET COPIES

Through function **400**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), any printout will be made various times depending on the number set in this step (from 1 to 5).

14.3 REPETITION OF THE LAST EXECUTED PRINTOUT

By pressing in sequence the **2nd F** and **F5** keys the last executed printout is repeated; however, it's not possible to reprint any selected databases, and the date/time will be of the copy just reprinted.

NOTE: If one wants always to execute more than one printout, it's advisable to use the ticket copies function (see section 14.2).

14.4 DEFAULT PRINTING FORMATS

The **SEtuP >> SEriAL >> dEF.Prn** parameter of the set-up environment (**TECH.MAN.REF.**) allows to enable the default printouts for the TPR printer.

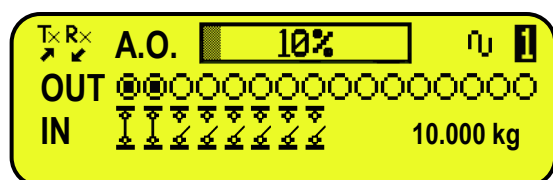
NOTE: By enabling these printouts all the formatted print formats will be CANCELLED and these will be SUBSTITUTED by the standard formats, which automatically will be linked to the available print functions.

15. OTHER FUNCTIONS

15.1 DIAGNOSTIC PERIPHERALS

Through function **118** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), one enables the diagnostic peripherals function.

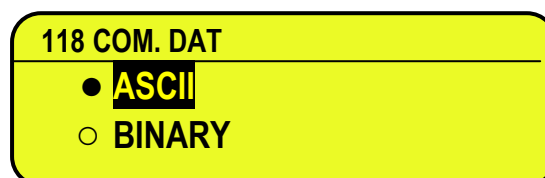
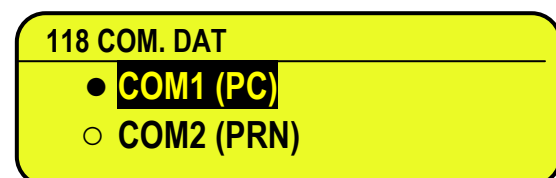
The display shows:



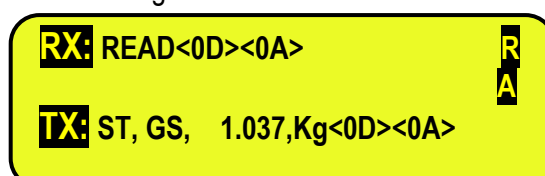
STATUS	DESCRIPTION
ANALOGUE OUTPUT(A.O)	Analogue output value expressed as a percentage.
OUTPUTS (OUT)	Status of the output, non active (○) or active (●).
INPUTS (IN)	Status of the input, non active (△) or active (▽).
SERIAL COMMUNICATION (Tx Rx)	The serial communication is active with the external device.
WEIGHT	Status of the weight: - unloaded scale; - unstable weight;
SCALE	Number of the active scale (example) and the relative weight loaded.

15.2 COM DATA DIAGNOSTIC

Through function **119** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), one enables the Com data diagnostic function. The display shows:



In the first screen one selects the port on which the diagnostic control should be executed. While in the second screen, one selects the code that one wants to use for viewing the data in transit.



When the data on the RX and TX reception and transmission lines are correctly displayed, then the functioning of the relative serial line is considered to be correct.

NOTE: By pressing the **/HELP** key, it's possible to see the keys list used in the menu.

15.3 CALCULATOR

Through function **113** combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), one enables the calculator function.

- **ADDITION**
- **MULTIPLICATION**
- **SUBTRACTION**

Procedure:

- Enter the first value using the numerical keyboard.
- Press **F1** to add, **F2** to multiply, **F3** to subtract the value.

TERMINATE THE OPERATION:

- **TYPE** the second value and **PRESS ENTER**: the result will be shown for a few seconds on the display.
- **TYPE** the second value and **PRESS TARE**: the result will be shown for a few seconds on the display and will be added (if an addition and multiplication) or subtracted (if a subtraction case) to the current tare value.
- **PRESS 2nd F**: the NET weight on the scale will be used as a second value and the result will be shown for a few seconds on the display.

To disable the calculator function, press the C key.

15.3.1 HELP FUNCTION

By pressing at length the **/HELP** key it is possible to see the list of the keys used in the calculator function.

The list is automatically scrolled. If one wants to scroll the list of the keys in manual mode, it is possible to use the arrow keys (F6 ▼ and F7 ▲).

15.4 DISPLAY OF NET WEIGHT WITH SENSITIVITY X 10 (for testing use during calibration)

By pressing at length the **F2** key one will view the net weight with sensitivity times 10 (press again at length the **F2** key to return to the normal visualisation).

NOTES:

- With approved indicator, the visualisation lasts about 5 seconds, after which it's disabled.
- The printout can only be done when the indicator has the standard sensitivity.

15.5 SETTING DATE / TIME

By pressing at length the **F3** key it's possible to quickly access the setting from the date / time of the instrument:

DAY ⇒ **ENTER** ⇒ MONTH ⇒ **ENTER** ⇒ YEAR ⇒ **ENTER** ⇒ HOUR ⇒ **ENTER** ⇒ MINUTES ⇒ **ENTER**.

15.6 SET-POINT FUNCTION

The indicator is supplied with 4 outputs (optional) that can be used for different functions; through the I/O expansion board (optional) it is possible to use another 12 outputs.

In the **SEtuP >> outPut >> r.ConF** menu (**TECH.MAN.REF**) it is possible to set the characteristics of each output which will be used: normally open or normally closed; upon direct control or weight stability, with hysteresis or without, the functioning mode.

It is also possible to set whether the enabling of the output excludes the check on the previous outputs (see the **SEtuP >> outPut >> r.ModE** parameter).

NORMAL FUNCTIONING MODE

By setting the **SEtuP >> outPut >> r.ModE** parameter on "norMAL", one configures the independent use of the outputs:

- the check is always made on all the set outputs
- the enabling of one of these does not provoke the disabling of the others.

SETPOINT ON THE GROSS WEIGHT

Functioning with hysteresis (rL.iSt "HYSTERESIS" parameter set as **iSt.on**)

By selecting this functioning mode the output function on the GROSS weight is activated; one enters two SET POINTS for each output: a DISABLING one, which, when the gross weight is lower than it, disables the appropriate output; an ENABLING one, which, when the gross weight is greater or equal than it, enables the appropriate output. Through function **202**, combinable with the desired key (<< **F.KEYS** >> step, **TECH.MAN.REF.**), the SET POINT values are entered (DISABLING and ENABLING) for each configured output:

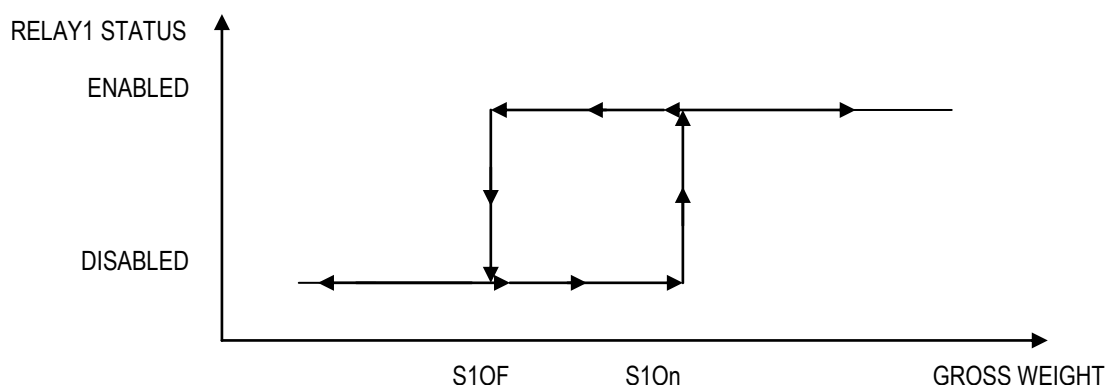
- The display shows "S.1 on" (relay 1 ENABLING SETPOINT): press **ENTER**, enter the weight value with the keyboard and confirm with **ENTER** (use the **C** key to quickly zero the current value).
- The display shows "S.1 off" (relay 1 DISABLING SETPOINT): press **ENTER**, enter the weight value with the keyboard and confirm with **ENTER** (use the **C** key to quickly zero the current value).
- Proceed in the same way for the following outputs (if present).
- When finished programming the set points, exit with the **C** key.

Functioning without hysteresis (rL.iSt "HYSTERESIS" parameter set as **setoff**)

The operating mode is the same as the previous one, except that just one SET POINT is entered for each relay ("S.1 on").

NOTES

- If all the relays have the "NONE" (none) functioning mode, it won't be possible to enter the "**Splint**" step.
- The DISABLING SET POINT must be less or equal to the ENABLING ones; if a value greater than the ENABLING one is entered and confirmed in the DISABLING SET POINT, the indicator will set at 0 the set point, until a correct value is entered.
If a value lower than the DISABLING one is entered and confirmed in the ENABLING SET POINT, that value is accepted, but the DISABLING SET POINT is put at 0.
- The 0 value is valid on both the set point values.
- The SET POINT check on the weight is active just during the weighing (in other words, not during the modification of the SET POINTS).



SET POINT ON THE NET WEIGHT

By selecting this functioning mode, in the normal scale mode, the relay function on the NET weight is enabled; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

GROSS WEIGHT AT ZERO

By selecting this functioning mode, in the normal scale mode, the relay function on the GROSS weight at 0 is enabled.

NET WEIGHT AT ZERO

By selecting this functioning mode, in the normal scale mode, the relay function on the NET weight at 0 is enabled.

INSTABILITY

By selecting this functioning mode, in the normal scale mode, the relay function on the unstable weight is enabled.

TOTALISATION

By selecting this functioning mode the output function is enabled when the totalisation has taken place; the output remains enabled until the totalisation is restored; in other words, by the passing by zero of the net weight or by weight instability (see **F.mode >> rEAct** parameter of the TECHNICAL SET-UP, **TECH.MAN.REF.**).

SET POINT ON THE PARTIAL TOTAL

By selecting this functioning mode, in the normal scale mode, the relay function is enabled on the sum between the NET weight on the scale and the accumulated net partial total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SET POINT ON THE GENERAL TOTAL

By selecting this functioning mode, in the normal scale mode, the relay function is enabled on the sum between the NET weight on the scale and the accumulated net general total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SET POINT ON THE GRAND TOTAL

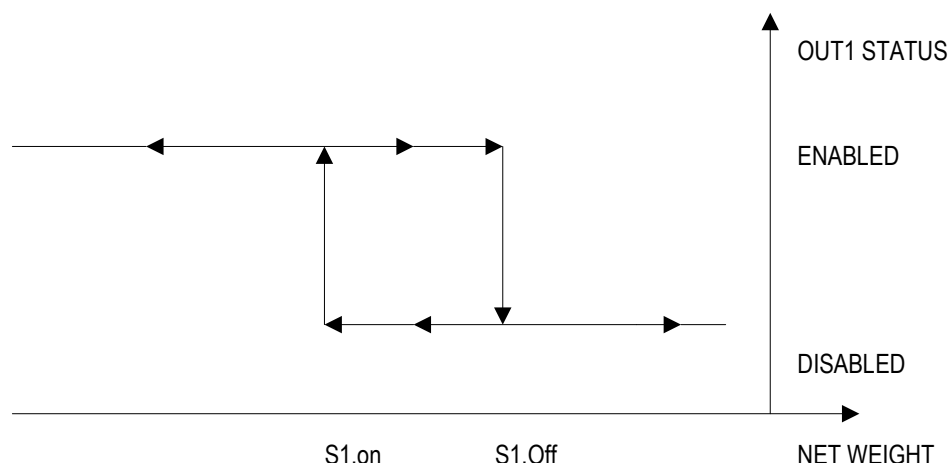
By selecting this functioning mode, in the normal scale mode, the relay function is enabled on the sum between the NET weight on the scale and the accumulated net grand total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SETPPOINT ON THE NEGATIVE NET WEIGHT

Functioning with hysteresis (rLiSt "HYSTERESIS" parameter set as iSt.on)

By selecting this functioning mode the outputs function on the NEGATIVE NET weight is activated; one enters two NEGATIVE SET POINTS for each output: a DISABLING one, which, when the NET weight is greater than it, disables the appropriate output; an ENABLING one, which, when the NET weight is lower or equal than it, it enables the appropriate output.

The entry and specifications are the same for the functioning mode on the gross weight.



Functioning without hysteresis (rL.iSt "HYSTERESIS" parameter set as iSt.oFF)

The operating mode is the same as the previous one, except that just one SETPOINT is entered for each output (" S.1 on "); for this purpose **the access to the " S.1 oFF " parameter is inhibited.**

The entry and specifications are the same for the functioning mode on the gross weight.

OPERATION MADE

By selecting this functioning mode, in the normal scale mode, the relay function is enabled after the execution of an input or output weigh; the relay remains enabled until the totalisation is restored; in other words, by the passing by zero of the net weight or by weight instability (see **F.mode >> react "REACTIVATIONS" parameter of the TECHNICAL SET-UP, TECH.MAN.REF.**).

INPUT/OUTPUT

By selecting this functioning mode, in the normal scale mode, the relay function is enabled after executing a single weigh or after an output weight (at the end of an input/output cycle); the relay remains enabled until the next totalisation is executed.

WEIGHT ACQUISITION

By selecting this functioning mode, in the normal scale mode, the relay function is enabled after the acquisition of the axle; the relay remains enabled until the totalisation is restored; in other words, by the passing by zero of the net weight or by weight instability (see **rEAct "REACTIVATIONS" parameter of the TECHNICAL SET-UP, TECH.MAN.REF.**).

INTERVAL OF THE AUTOMATIC ACQUISITION

In the automatic axle weighing, the relay remains active for the total time necessary for the axle acquisition, therefore from the surpassing of the minimum axle weight until the axle weight acquisition sound.

AUTOMATIC AXLE WEIGHT ACQUISITION ERROR

In the automatic axle weighing (see section 13.2.2, 13.2.3, 13.3.1.2 and 13.3.1.3 for the relative description), in case of error condition (see section 13.4.2), the relay remains open and closed intermittently (half second open and half second closed) until the reset of the error through a key is executed (see section 13.4.2), the next axle is acquired, the cycle is ended or cancelled.

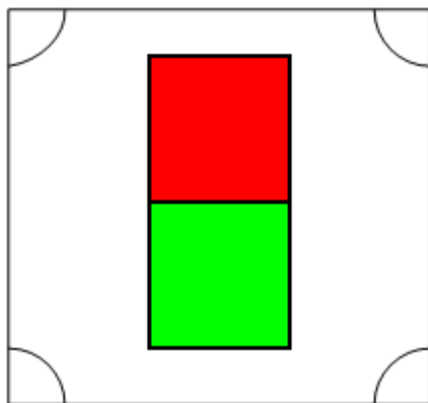
CONTROL LIGHT

By selecting this functioning mode the output function on the NET weight is enabled: when the net weight is equal or greater than the ENABLING SET POINT, the relay is disabled.

The relay is disabled until the acquisition of the axle weight; after this, the relay is activated and remains activated until the weight is lower than the ENABLING SET POINT, and the weight doesn't pass it once again.

If the relay is disabled and no axle weight is made, the functioning is the same as that of the set point on the net weight.

This is helpful to guide the driver during the axle positioning, in order to know when to drive the axle on the scale, when to stop, and when to restart again.

EXAMPLE OF FUNCTIONING WITH A CONTROL LIGHT:

RED → OUT 1, functioning on "control light", normally CLOSED, ENABLING SET POINT 10kg.

GREEN → OUT 2, functioning on "control light", normally OPEN, ENABLING SET POINT 10kg.

- The scale is unloaded and the vehicle is not yet positioned on the scale: the GREEN light turns on, to inform to drive the axle on the scale.
- The vehicle is now positioned on the scale. When the ENABLING SET POINT is reached, the GREEN light turns off and the RED light turns on, to inform to stop with the axle on the scale.

- After the execution of the axle weigh, the RED light turns off and the GREEN light turns back on, to inform to proceed with the next axle.
- The vehicle descends from the scale and the GREEN light continues to stay on.
- It is possible to execute another axle weigh with the same procedure.

SETPOINT ON THE AXLE TOTAL

By selecting this functioning mode, in the normal scale mode, the relay function is enabled on the sum between the acquired axles: when the sum weight is equal or greater than the ENABLING SET POINT, the relay is disabled; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

EXCLUSIVE FUNCTIONING MODE

By setting the **SEtuP >> outPut >> r.ModE** parameter on “**EXCLuS**”, one configures the exclusive use of the outputs:

- The check is made on all the set outputs starting from the last one (OUT16) to the first one (OUT1).
- When one of these is enabled the check on the previous ones is excluded.

By selecting this functioning mode and setting the set points in increasing order, one can create outputs activation ranges.

Example:

RELAY	SETPOINT	ACTIVATION RANGE
rL. 1	1.000 kg	From 1.000 to 1.999
rL. 2	2.000 kg	From 2.000 to 2.999
rL. 3	3.000 kg	From 3.000 to 3.999
rL. 4	4.000 kg	From 4.000 onwards.

In this case, if the weight reaches 2.500 kg, ONLY THE “rL. 2” OUTPUT IS ENABLED; if the weight reaches 4.500 kg, ONLY THE “rL. 4” OUTPUT IS ENABLED.

DECLARATION OF CONFORMITY

This device conforms to the essential standards and norms relative to the applicable European regulations. The Declaration of conformity is available in the web site

www.diniargeo.com

WARRANTY

The TWO-YEAR warranty period begins on the day the instrument is delivered. It includes spare parts and labour for repairs at no charge if the INSTRUMENTS ARE 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 shipping costs (both ways), if the instrument is shipped to the DEALER or manufacturer for repair.

The WARRANTY is VOIDED if faults occur due to work done by unauthorised personnel or due to connections to equipment installed by others or incorrect connection to the power supply.

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

AUTHORISED SERVICE CENTRE STAMP

