GICAM PIA AXLE

OPERATIONAL HANDBOOK

MAN-PIA-AXLE-01 (vers. 1.0)

INDEX

DEVICE INTENDED USE

PIA AXLE systems are modular weight calibration system composed in 2/3/4 portable platforms with touch screen controls, carried in an ABS case. The platforms are low profiled, high resistance alloy built and this makes them durable and heavy duty resistant. Double ramp (upward/downward) with an ample lean area, anti slippage protection for an immediate and safe vehicle placement. Handles for carrying with ease.
Single view for each platform or total view with weight total or axis related. The connection between platforms and controller can be ordered in two variants:

- connector cable for model PIA AXLE/C
- radio connection for model PIA AXLE/W

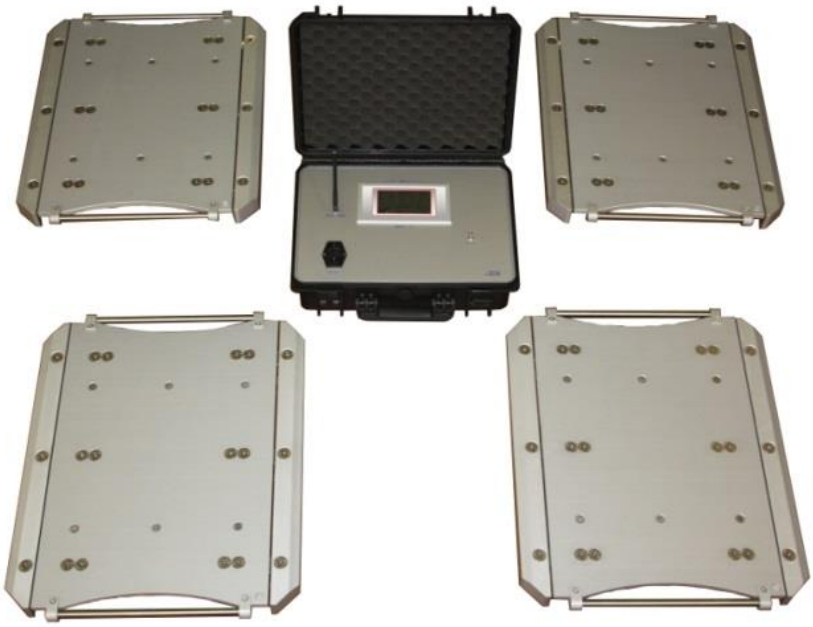
The controller is contained in a comfy and easy to transport case
The control unit is a WINTS model, with TUOCH SCREEN system, one colour high contrast, that can view and print the weight recorded of every wheel for each axis or diagonal or total weight sum. Easy to use to check on every aspect related to weight distribution in operational mode.
It uses internal rechargeable batteries, with charger and a 200h capacity. Integrated output via Rs232, Rs485 for optional print management. Additional USB port to record acquired data on an external memory device.

TECHNICAL DATA

PIA AXLE/C

Input	220V / 24V	
Display	LCD 5.2" (display area 118 mm x 58 mm) (l x h), Graph (240x128 pixel)	
	Display lighting	White led rear light, customizable
	Touch screen	4 cable resistive, operable with gloves, with buzzer function
Dimensions	600x420x53 mm (600x527mm lower side)	
Platform material	High resistance aluminium	
Platform weight	25 kg	
Loading cells material	Inox steel	
Loading cells allowance	2,5t 5t 10t	
Cells quantity (1 platform)	6	
Case dimensions	400x300x200 mm	
Case weight	~5 kg	
Connecting cable lenght	10 mt	

PIA AXLE/C



Input	220V / 24V	
Working temperature	-10 / +50 °C	
Stocking temperature	-20 / +60 °C	
Display	LCD 5.2" (display area 118 mm x 58 mm) (l x h), Graph (240x128 pixel)	
	Display lighting	White led rear light, customizable
	Touch screen	4 cable resistive, operable with gloves, with buzzer function
Dimensions	600x420x53 mm (600x527mm lower side)	
Frequency	866-868 MHz	
Number RF channel available	7 DIP SWITCH selection	
Network addressed available	15 DIP SWITCH selection	
Medium coverage range	50 m	
Medium battery lasting	~200 h	
Platform weight	25 kg	
Loading cells material	Inox steel	
Loading cells allowance	2,5t 5t 10t	
Cells quantity (1 platform)	6	
Case dimensions	400x300x200 mm	
Case weight	~5 kg	

MAIN FUNCTIONS

The system can be configured in different setups depending on the model:

- WINTS tool + cable link up to 4 channels, with PIA AXLE/C
- WINTS tool + radio transmission via RRF + N platforms with integrated weight transponder via radio TRF (max 4), with PIA AXLE/W

WINTS tool gets and shows the reading of maximum 4 loading cells (cell number can be selected between 1 and 4) and the total weight, sum of the single measures. Weight values are acquired from the WINTS tool with a fixed frequency of 10Hz.
As an option the measurement on display can be saved on an USB memory drive or can be printed on a roll printer.

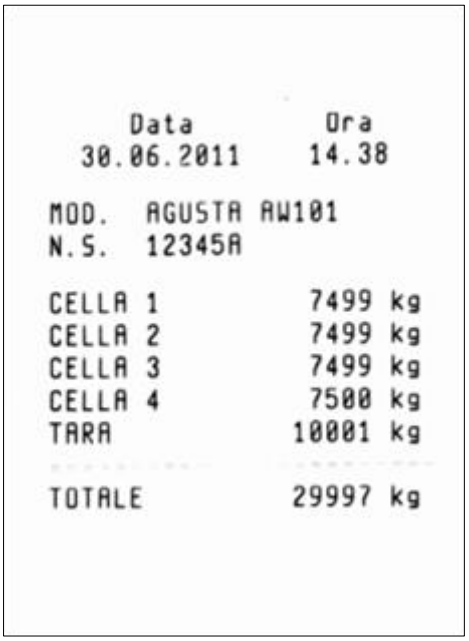


Figure 1 Printing sample

	A	B	C	D	E	F	G	H	I	J
1	Data	Ora	Modello	N.Serie	Cella1	Cella2	Cella3	Cella4	Tara	Totale
2	30/06/2011	10.12	AGUSTA AW101	12345A	0,16	0,16	0,16	0	0	0,48
3	30/06/2011	10.12	AGUSTA AW101	12345A	25,16	25,16	25,16	25	0	100,48
4	30/06/2011	10.12	AGUSTA AW101	12345A	50,16	50,16	50,16	50	0	200,48
5	30/06/2011	10.13	AGUSTA AW101	12345A	75,16	75,16	75,16	75	0	300,48
6	30/06/2011	10.13	AGUSTA AW101	12345A	100,16	100,16	100,16	100	0	400,48
7	30/06/2011	10.13	AGUSTA AW101	12345A	0,16	0,16	0	0	0	0,32
8	30/06/2011	10.13	AGUSTA AW101	12345A	25,16	25,16	0	0	0	50,32
9	30/06/2011	10.13	AGUSTA AW101	12345A	50,16	50,16	0	0	0	100,32
10	30/06/2011	10.13	AGUSTA AW101	12345A	75,16	75,16	0	0	0	150,32
11	30/06/2011	10.13	AGUSTA AW101	12345A	100,16	100,16	0	0	0	200,32

Figure 2 File containing data recorded sample

Printer and USB module are **optional** and are available on explicit request. If not requested they will not be part of the standard equipment.

DEVICE START UP

Connect to the power output and use the switch near the electrical cable (AXLE/C) or push the switch (AXLE/W) on the case that contains the instruments:

Figure 3 Starting switch

On startup the display shows for a moment an intro screen with the firmware code and version.

Figure 4 Starting procedure showing firmware version

PLATFORM CONNECTION

In the AXLE/C model you will need to bring all the cables to the case, and link them to the connectors. Done this, platform are connected to control instrument.

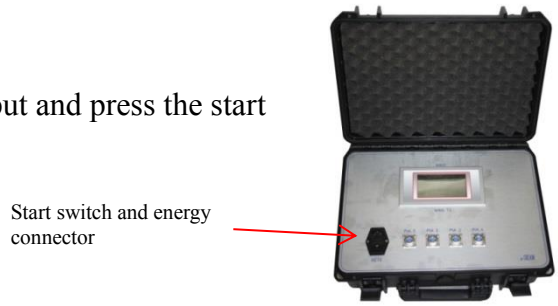
In the AXLE/W model you just need to light up the instrument in the case and the transmission unit in every platform using the start switch, on the platform itself. The radio system is already set up for the communication with the platforms, so the system is ready to use.

You have to remember, when using AXLE/W, to check the platforms and the control instrument charge levels.

SYSTEM ENERGY INPUT

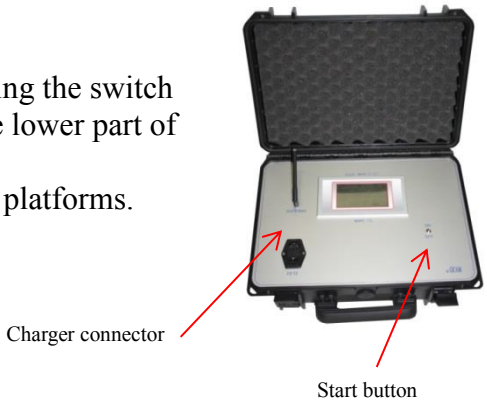
PIA AXLE/C

To activate the system connect the cable to electric output and press the start switch.



PIA AXLE/W

To activate the wireless start up the instruments in the case using the switch contained inside. Start up the platforms using the button in the lower part of them.
Before starting check the battery level for the case and for the platforms.
Every platform has 4 stilo batteries 1,2V.



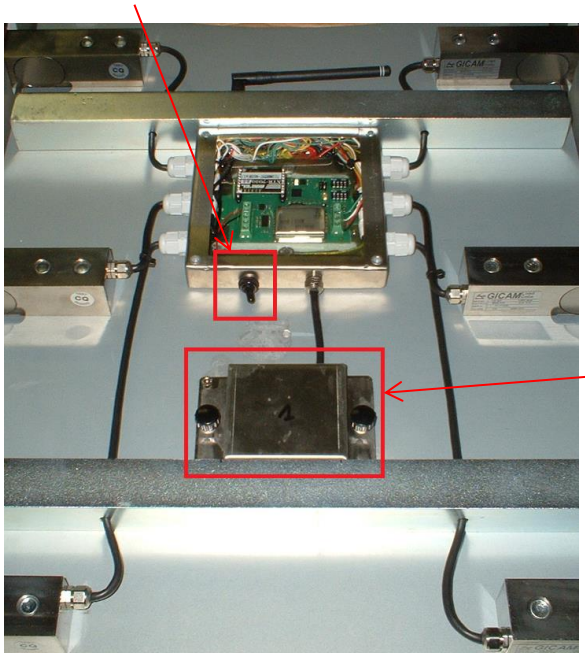


Figure 5 Lower side view with wireless connection

MAIN BOARD

On the main board the 4 loading cells values are shown. In the middle there is the total sum.
If there is no connection between the loading cells and the controller in the value field '??????' is shown.
If the cells are not connected ‘ - - - - - - ‘ is shown.
If over the loading cells maximum nominal allowance ‘ ^^^^^^ ‘ is shown.

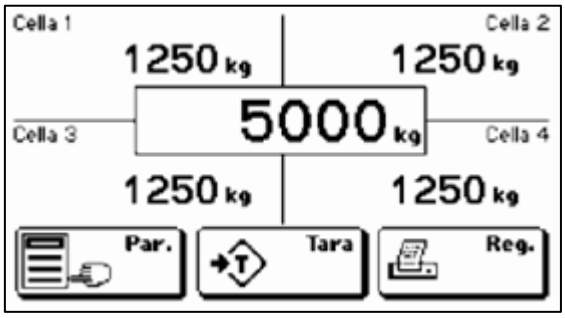
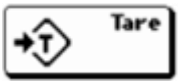
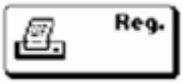
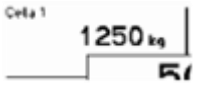
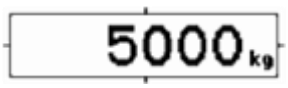


Figure 6 Main display

	Access to **vehicle parameters** setup menu, model and serial number.
	**Manual calibration** command. If already set this command will reset the calibration value.
	**USB Host** log saving and **ticket printing**. Saving on USB functions and ticket printing can be blocked by user menu.
	Pushing on the single weight viewing board you can execute the **semi automatic reset** of the selected value. When acquiring through TRF modules, also the TRF module battery status is shown. It is possible to set a low battery value with a parameter, when the status of the battery is equal or lower the set value the alarm message "BATT!" is shown.
	Pushing on the sum value viewing board the **semiautomatic reset** can be executed on all weight values:.

COMMAND MENU AND PARAMETER MENU

Menu screens are divided in **2 types**: command menu and parameter menu, based on the context and on data setup menu structure.

A **command menu** may have from 1 to 9 choices per screen. Should the choices be more than 9 they will be divided on more pages. Using the button with the description the command will be executed.

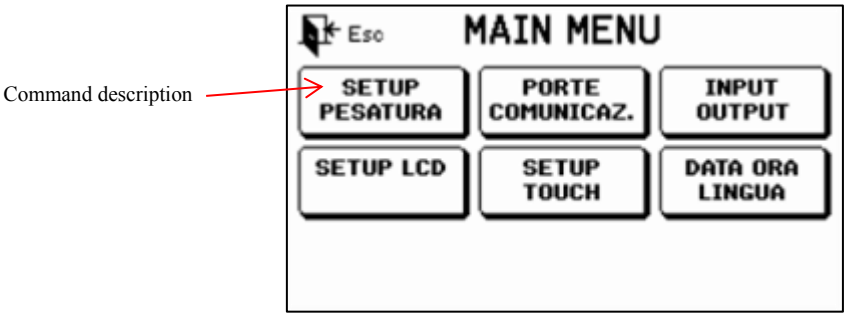


Figure 7 Command menu

A **parameter menu** may have from 1 to 9 choices per screen. Should the choices be more than 9 they will be divided on more pages. Using the button containing the parameter you can access to its settings.

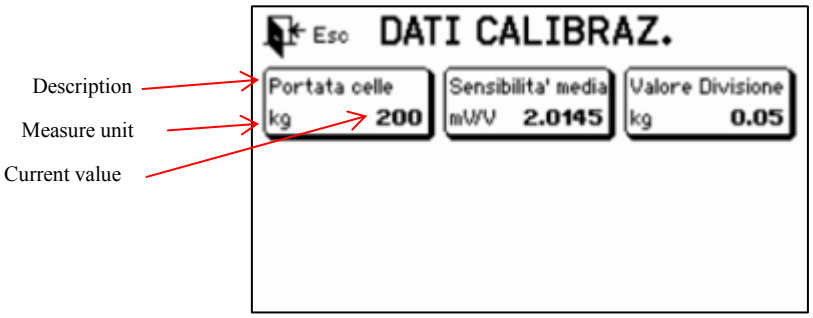


Figure 8 Parameter menu

Esc	Leave the menu and return to higher level or to main screen.
Next	Goes to the next page (choices > 9).

PARAMETER SETUP MODE

Parameter setup procedures are divided in 3 types: numerical parameters input, alfanumerical parameters input, preset parameter selection.

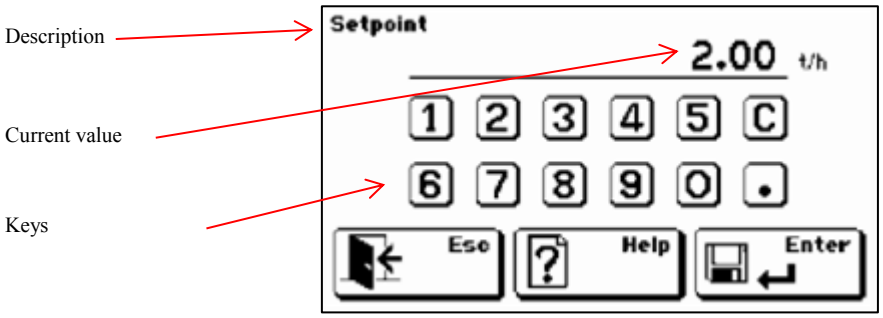


Figure 9 Numerical parameter input

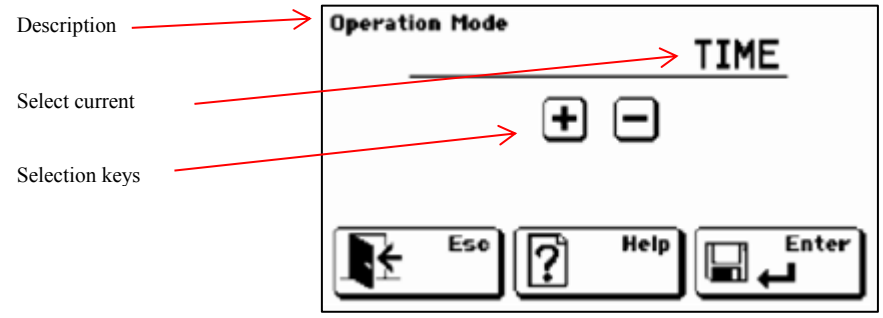


Figure 10 Setup parameter selection

Esc	**Leave** the setup discarding the changes
Enter	**Confirm** the value and saves.

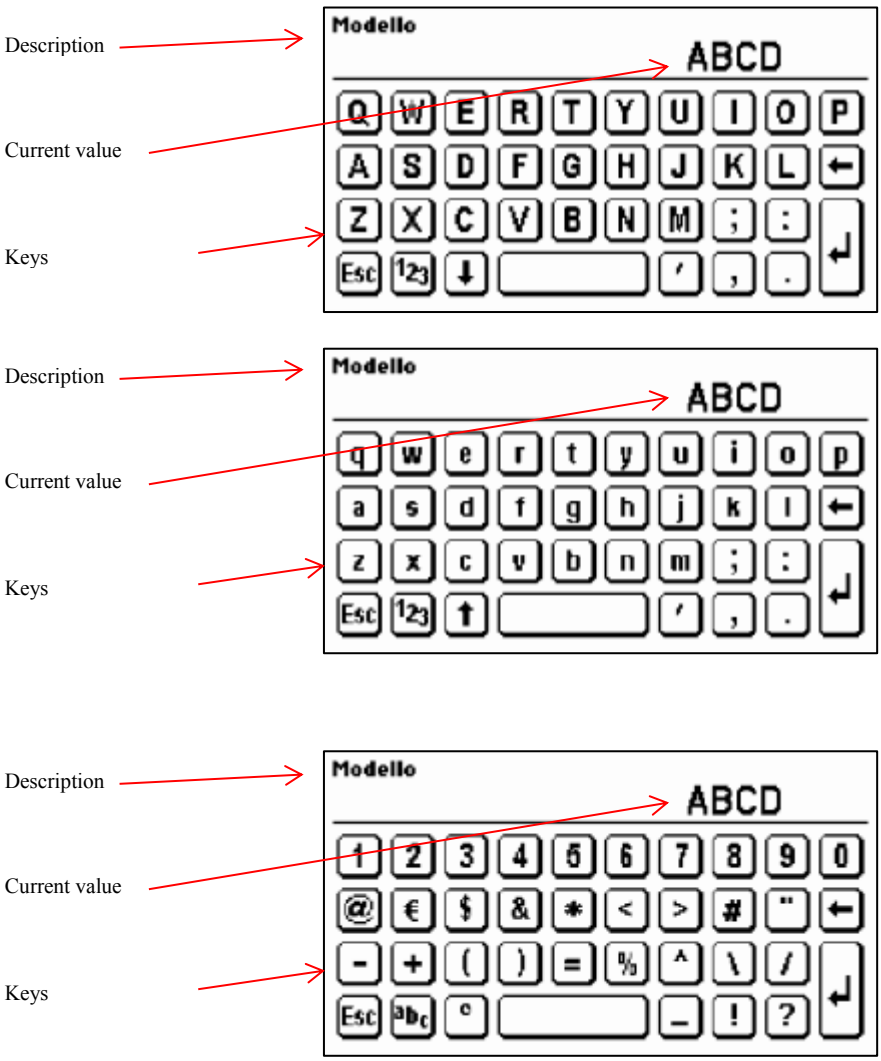


Figure 11 Alfanumerical parameter input

Esc	**Leave** the setup discarding the changes
↵	**Confirm** the value and saves.
abc	Go to **alphabetic font**.
123	Go to **numeric font**.
↑ ↓	Go to **upper case/lower case**.

SETUP MENU

Use the "Menu" icon that is shown briefly on the initial page during startup.

Figure 12 Start up

Insert entry password: 2792

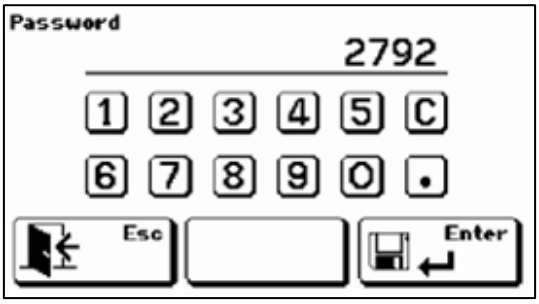
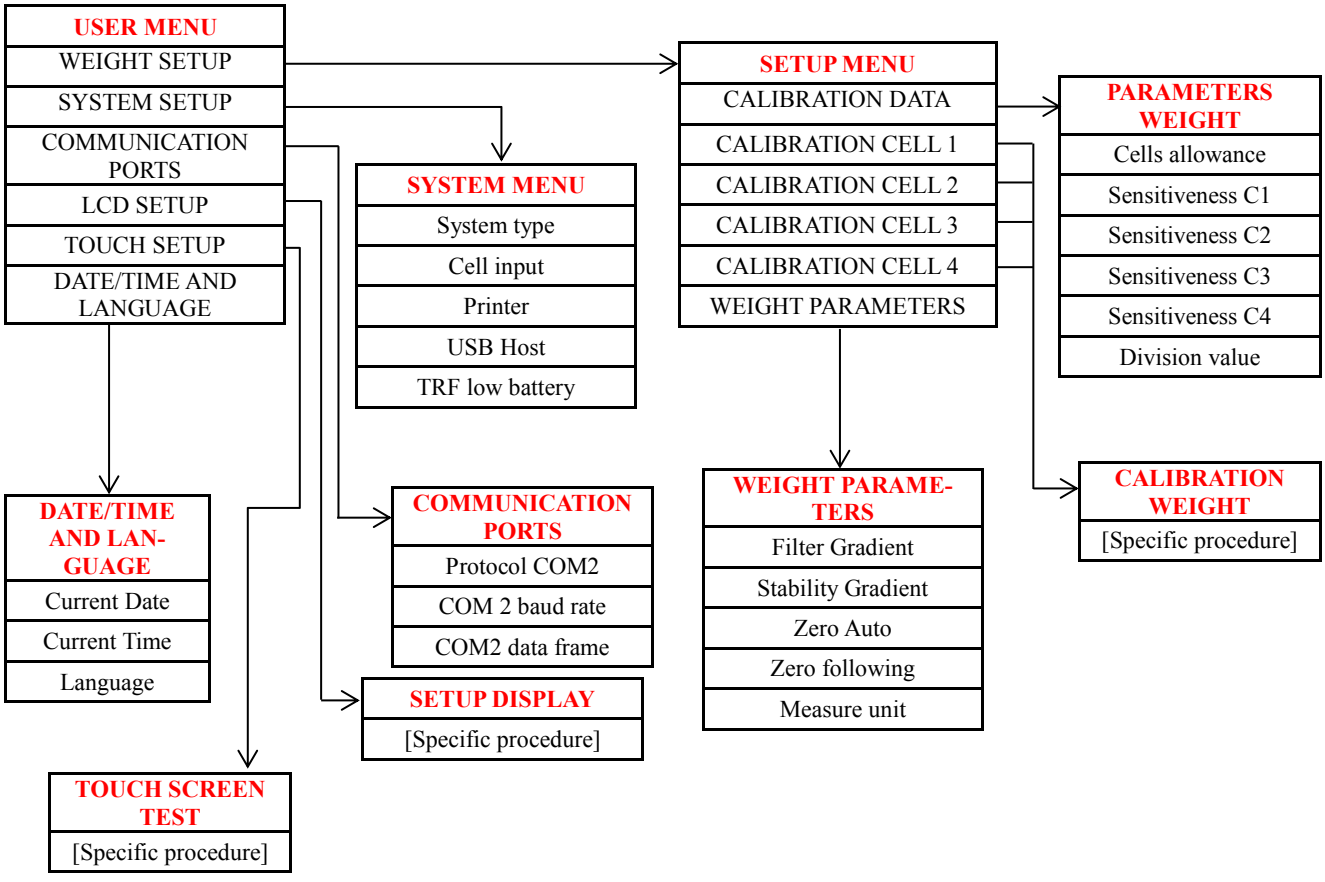


Figure 13 Secured access screen

Setup menu is composed by the following commands:



CALIBRATION DATA

- **Cells allowance**: Maximum allowance for every single load cell, expressed in the selected weight unit, maximum value 100.000. For the 4 load cells the same allowance must be selected.
- **Sensitiveness**: Load cells system sensitiveness, expressed in mV/V, a value for each cell.
- **Division value**. Division value is a number that can be set between 0.0001 and 500. The ratio between cells allowance and division value is called system precision (division number). If allowance changes, a division value towards 10000 division is set. The maximum division number (resolution), the ratio between allowance/ division value, is in a range starting 500 to 600.000. When changing the division value, if the maximum allowance is not modified, weight calibration is automatically corrected.

When one of this parameters is changed weight theoretical calibration is commenced based on the values recorded.

WEIGHT CALIBRATION

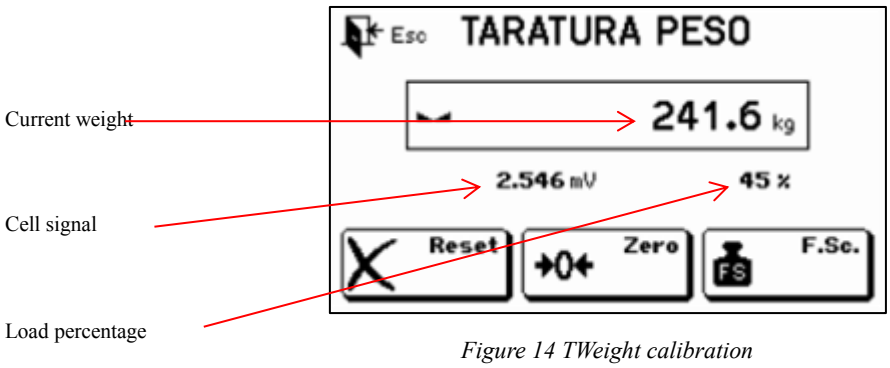


Figure 14 TWeight calibration

Reset	**Delete** recorded weight calibration.
Zero	Commence **zero calibration.**
F.Sc.	Commence **lower edge calibration** setting up a **sample weight**.
Esc	**Close** the procedure, saving data.

WEIGHING PARAMETERS

Weight Parameters

- **Weight filter**: With this parameter can be managed the digital filter on measured weight. This filter is active on display representation of current data. If a lower value is commenced filter activity level is lower on the other hand commencing an higher value will apply more filters on the weight.
- **Weight steadiness**: Weight readiness activity regulation:

Steadiness value	0	1	2	3	4
Weight range (div.)	2.0	1.5	1.0	1.0	0.5
Time (seconds)	0.6	0.8	0.8	1.0	1.3

- **Autozero**: This parameter represent the maximum weight reset on start, as a percentage of the allowance. The autozero function executes an automatic zero calibration on device start up, but only if detected weight is steady inside set time (5 seconds time out). To disengage this function set the value to 0. The value can be set up to 100% in relation to system allowance.
- **Zero following**: Zero following function execute a zero calibration automatically when the weight suffers a slow variation in a span of time. To disengage this function set the value to 0. Maximum weight to reset with this function is 2% of the system allowance. If the autozero is higher the 10% of the allowance (non metrical usage), zero following function is executed until autozero value is reached.
- **Measure unit**: With this parameter a measure unit for the connected cell is selected, values are: kg, g, t, lbs, N, kN.

WARRANTY

Gicam Srl warrants its devices from every materials and production defects for 12 months from delivery date. If under warrant, the device should present working anomalies, please contact technical support from authorized reseller, or, if not applicable, contact Gica Srl directly.
Parts and working hours are in the warrant. Shipping costs for device pick up and delivery are not covered by the warrant.
The warrant is not applicable when:

- Improper usage
- Not proper installation
- Not proper energy input or mistaken electrical connections
- Poor manteinance
- Modification or intervention done with non original components or by non authorized personnel.
- Partial or total instruction inobservance.
- Exceptional events

Once the terms of the warrant have expired, technical support will be given as standard support, following terms and prices at the intervention's time.

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