PERIN
WEIGHMASTER

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Farm Scale
mod. 700/710

USERS' HANDBOOK

English

INDEX

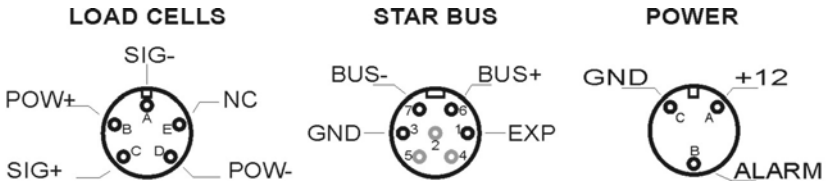
WARRANTY CONDITIONS: Warranty covers the material and manufacturing defects, and includes both spare parts and manpower for the substitution at our warehouse. Warranty starts from the purchasing date and has a validity of 24 months.
The possible freight charges have to be paid by the customer.
Warranty cannot be applied if the damages are due to improper installation, bad use, ill-treatment, deterioration, lightnings, weather phenomena, over-voltage, over-current, insufficient or irregular power supply. Moreover, warranty is not acknowledged if damages have been caused during the transport from and to the customer, or if they are due to a use that is inconsistent with the technical/safety measures demanded in the country where the device is used.
If, during the warranty period, one or more components are replaced - for the reparation - with spare parts which are not supplied or approved by the producer, or in case reparation is carried out by non-authorized people, Perin Weighmaster S.r.l. reserves the right to revoke immediately the warranty with no further information.
Warranty is appliable only if there are the producer's label and anti-tamper label on the device.
Perin Weighmaster S.r.l. is not responsible for any direct or indirect damages, caused to people or things, due to the operator's inability or to a breakdown of the device with the consequent stoppage of its use.
If spare parts not included in warranty (external covering, batteries, rubber parts) needed replacing, their cost would be debited to the customer together with the corresponding labour cost.
In case of shipment, pack correctly the device and write down a brief explanation of the problem.

1 - Safety regulations for system installation and maintenance

- Install only when power supply is disconnected.
- Do not install the device near heat sources or near strong magnetic fields.
- Disconnect the power supply cable from the weight indicator when you need to recharge the battery of the means of transport.
- Immediately disconnect the power supply cable if the cables or the connectors are stripped or damaged, if the system has particular problems or if there is liquid/humidity in the device.
- The tension should stay between 12V and 14V to avoid damaging the other parts of the system. The device works correctly with tensions between 10V and 24V.
- Before cleaning the machine with high pressure waterjets, disconnect the cables, remove the weight indicator from the machine and protect the connectors of the cables from water seepage. Pay attention that the load cells, the junction box, the alarm and other accessories are not exposed to direct waterjets. If the device needs to be cleaned, use soft and lightly humid cloths. Do not use sprays, solvents, abrasives, sharp or cutting objects which could damage the case.
- Do not open the device, to avoid losing the warranty right. For maintenance/reparation, address to our company or to technical authorized staff.
- Before doing any welding on the machine, disconnect the cables. To prevent welding current from passing through load cells, it is necessary to shortcircuit the body of the load cells with a cable with adequate section and the earth of the welder must be connected near the point where you weld.

2 - Connections

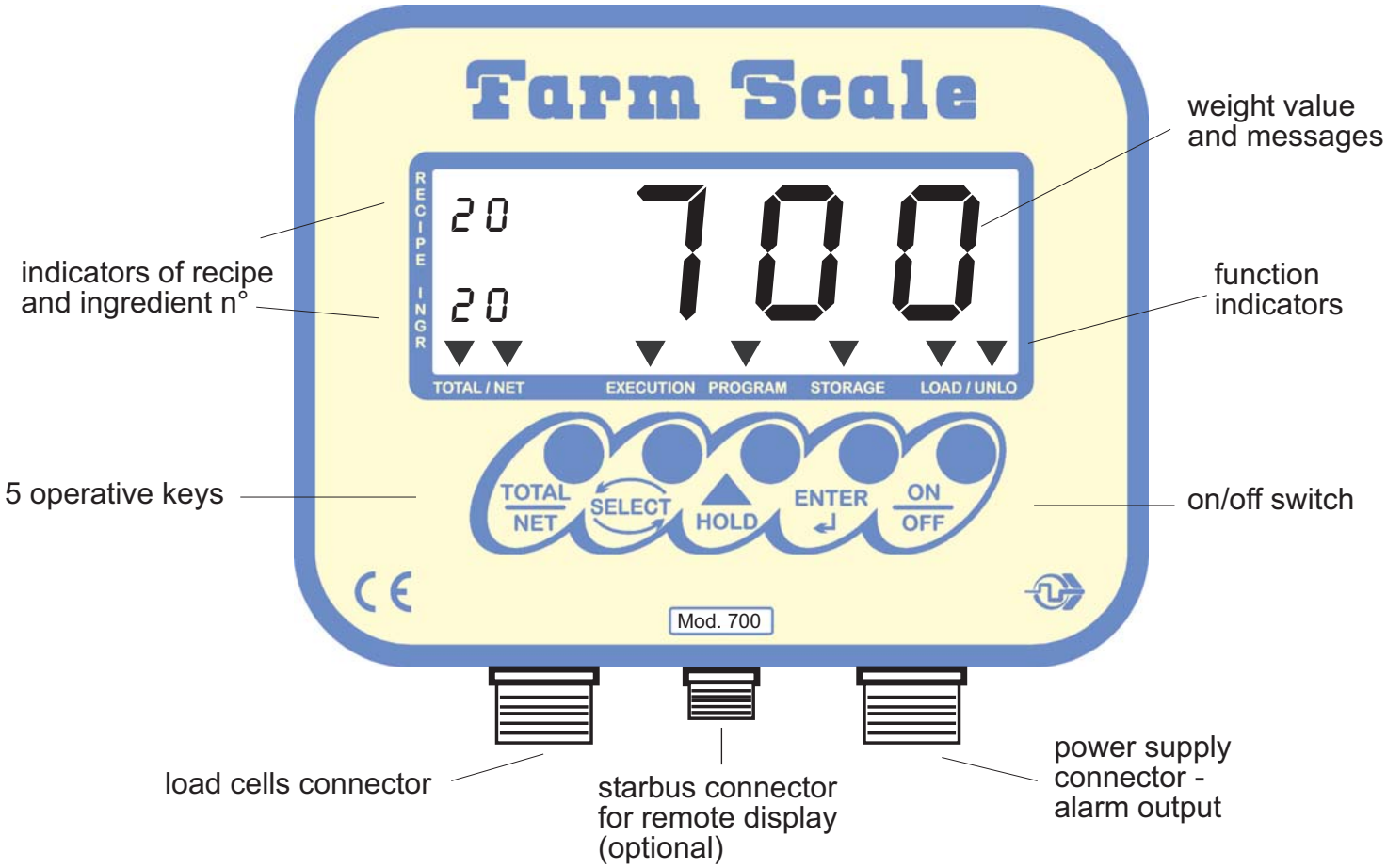
The device has got three connectors. From left to right: a 5 pin connector for the connection of the extension cable (LOAD CELLS), an optional 7 pin connector for the connection of remote displays (STARBUS), a 3 pin connector for the connection of the power supply and alarm cable (POWER). Before making connections, make sure that the device and the possible peripherals are off. Before introducing any connector, make sure it is the right one and then connect it adequately otherwise damages to the device could occur.
After having introduced the connector, screw the fixing ring.
To disconnect the cables from the plugs, rotate the upper ring anticlockwise, keeping the lower ring steady. Pull out the connector. Do not pull the cable directly.



3 - Disposal of the device

This symbol present on the product or on the handbook indicates that the product cannot be thrown together with household garbage (European Directive 2002/96/EG). The final user has to dispose of the device at a gathering place for recycling and disposal of electrical and electronical devices. The separate refuse collection and the correct recycling of the devices allow to protect the health of people and ecosystem. For further information concerning gathering points for devices, contact the local authority for the disposal of garbage or the distributor where the product has been purchased.

DESCRIPTION OF THE DEVICE



	DIRECT READING	PROGRAMMING	EXECUTING RECIPES
TOTAL NET	Passes from total to net and viceversa (memorizes the value, recalls the total weight). Kept pressed, it zeroes the scale (tare)	Zeroes the wrong values; kept pressed, it goes back to direct reading	Restores the value of a programmed ingredient; kept pressed, it goes back to direct reading
SELECT	Selects the functions of recipes recall, programming and storage	Memorizes the digit and passes to the next one	Passes to the following ingredient manual or automatic
HOLD	Holds the weight value	Increases the value of the digit	Holds the weight value
ENTER	Kept pressed, it carries out the battery test with intermittent alarm	Memorizes the value of an ingredient and displays the following ingredient	Scrolls the ingredients of the recipe

MESSAGES ON DISPLAY

HEllo	Start message	out	Damaged alarm output
tArE	Zeroing	HoLd	Blocked value
	Low battery level intermittent signal	t 12.5	Battery voltage
Err	Zeroing mistake	cLr	Storage cancellation
Or-L	Out of range (low)	Or-H	Out of range (high)

MAINTENANCE

FarmScale mod. 700/710 do not require any regular maintenance, however it is necessary to check the conditions of the weighing system periodically.

1) Make sure that there are no disturbing elements between the supporting chassis and the platform or the container, the basin, the feeder, etc.
2) Make sure that the load cells are not damaged (no cracks nor dents), not rusty, not corroded by acids.
3) Make sure that there is enough space between the chassis and the components of the weighing systems; lubricate if necessary.
4) Make a test: load a weight on each corner, the displayed amount must be nearly the same.
5) Make sure that the connectors are tight and that the cables are undamaged (no cuts nor abrasions). Remember that, where food is stored or handled, small rodents often gnaw cables which are situated in hidden or scarcely reachable places.
6) Check there is no oxidation or humidity on the connecting points.
7) Check that the silicone used to seal the different parts of the weighing system is intact otherwise there could be water seepage.

BATTERY TEST

The battery test should be made periodically (entering voltage level to FarmScale mod. 700/710). To carry out this test, keep the key ENTER pressed; a "t" with the voltage value of power supply will be displayed and the alarm will sound intermittently. Press ENTER once again to have the direct weight reading.

USE AS SIMPLE WEIGHT INDICATOR

Switch the indicator on with the key ON/OFF and wait for a few seconds. After the HELLO message, the indicator shows the model and the version and prepares itself for direct reading. Load and you will immediately read the value corresponding to the loaded weight. NB: in the beginning it might be necessary to adjust the zero, because the mechanical parts of the system need some time to settle.

ZEROING (TARE)

Switch the indicator on, after a few seconds a value will be displayed. Keep the TOTAL/NET key pressed until the display shows the message tArE. The indicator goes automatically to zero.

PARTIAL WEIGHINGS

To make loading of different ingredients easier, without using the alarm, press TOTAL/NET and the display will visualize "0" with an indicator which will set on NET. Load the ingredient, press TOTAL/NET again and the indicator will move to TOTAL so that the total loaded weight will be shown. Follow this procedure for all the partial weighings (loading and unloading).

SELECTION OF FUNCTIONS

To change the function you only need to press SELECT .
The fixed announcer will move showing each time the selected function:
TOTAL / NET / EXECUTION / PROGRAMMING / STORAGE.

PROGRAMMING RATIONS

FarmScale Mod. 700/710 has a memory able to store programmes of 20 recipes of 20 ingredients each, which can be used for loading and unloading.
When executing the ration, the indicator automatically recognizes if a loading or unloading is being carried out (LOAD/UNLO announcers); there will be an alarm both for loading and for unloading. It is therefore possible to use the programming of recipes to manage different unloading groups, too.

There are two different ways of setting the programming:
- in total values (the ingredients are expressed in total kilos)
- proportional to the number of animals (the ingredients are expressed per animal)

To write, recall, check and execute the programme, use the keys placed on the frontal panel. The user should prepare a list of all the ingredients with their values in order to program the recipe in a correct way.

PROGRAMMING LOADING IN TOTAL VALUES

The ingredients are introduced in total Kg. After the ration has been entered, before executing it, it is still possible to change the total value with automatic adaptation of components. e.g. - program the recipe n. 1 composed of the following ingredients: n. 1 of 110 kg, n. 2 of 225 kg, n. 3 of 1120 kg and n. 4 of 120 kg. Proceed in this way: switch on the indicator and wait for a few seconds.

PRESS		DISPLAY
SELECT	press it twice; the indicator sets on PROGRAM and the recipe n. 1 with letter "t" (to indicate the total) will appear	1 t 0
ENTER	it confirms that you want to program recipe n. 1. The number of animals is displayed and the first digit on the right blinks	1 c 0000
ENTER	it confirms the number of animals is zero (the programming is in total values) and displays ingredient n. 1	1 1 0000
SELECT	it memorizes the first digit (units) and moves to the second one	1 1 0000
HOLD	it increases the second digit (tens)	1 1 0010
SELECT	it memorizes the second digit	1 1 0010
HOLD	it increases the third digit (hundreds)	1 1 0110
ENTER	it memorizes the value of ingredient n. 1 and displays the value of ingredient n. 2	1 2 0000
HOLD	it increases the value of the first digit (units)	1 2 0005
SELECT	it memorizes the first digit	1 2 0005
HOLD	it increases the value of the second digit (tens)	1 2 0025
SELECT	it memorizes the second digit	1 2 0025
HOLD	it increases the value of the third digit (hundreds)	1 2 0225
ENTER	it memorizes the value of ingredient n. 2 and displays the value of ingredient n. 3	1 3 0000
SELECT	it memorizes the first digit (units)	1 3 0000
HOLD	it increases the value of the second digit (tens)	1 3 0020
SELECT	it memorizes the second digit	1 3 0020
HOLD	it increases the value of the third digit (hundreds)	1 3 0120
SELECT	it memorizes the third digit	1 3 0120

HOLD	it increases the value of the fourth digit (thousands)	1 3 1120
ENTER	it memorizes the value of ingredient n. 3 and displays the value of ingredient n. 4	1 4 0000
SELECT	it memorizes the first digit (units)	1 4 0000
HOLD	it increases the value of the second digit (tens)	1 4 0020
SELECT	it memorizes the second digit	1 4 0020
HOLD	it increases the value of the third digit (hundreds)	1 4 0120
ENTER	Press it several times. It allows to scroll the other values, up to the 20th ingredient, and displays the total of the recipe	1 t 1575

To leave the PROGRAM function, press TOTAL/NET .

LOADING Ration n. 1 (total values)

Load ration n. 1 whose total is 1575 Kg

PRESS		DISPLAY
SELECT	it displays the loading function (the indicator moves to EXECUTION)	1 t 1575
ENTER	it confirms the loading function and displays the total of the ration n. 1. The right digit blinks to indicate that it is possible to change the total of the ration with adaptation of the ingredients	1 t 1575
ENTER	it confirms the execution of the ration n. 1 and displays the ingredient n. 1 ready for loading. The announcers blink on EXECUTION and LOAD at the same time	1 1 110

Load; the value on the display will decrease in proportion to the loaded amount.

When 85% of the load has been reached, you will hear an intermittent signal: load with care. When 100% has been reached, you will hear a continuous signal: stop loading immediately.

After 5 seconds, the alarm stops and the value of the ingredient n. 2 (ready to be loaded) will appear on the display. Proceed ...
After loading all the ingredients, the total weight will be displayed.

PROGRAMMING PER NUMBER OF ANIMALS

e.g. - program recipe n. 2 for 123 animals with ingredient n. 1 of 1,10 kg, n. 2 of 2,25 kg, n. 3 of 9,20 kg and n. 4 of 0,72 kg.
The full stop (.) indicates that the values are expressed per animal.

Proceed as follow: switch the indicator on and wait for a few seconds

PRESS		DISPLAY
SELECT	press it twice for the program function; the indicator sets over PROGRAM. The total of the recipe n. 1 will be displayed	1 t 0
HOLD	it increases the number of the recipe	2 t 0
ENTER	it confirms the recipe n. 2; it asks for the number of animals (the right digit blinks)	2 c 0000
HOLD	it increases the first digit (units)	2 c 0003
SELECT	it memorizes the first digit and displays the second one	2 c 0003
HOLD	it increases the second digit (tens)	2 c 0023
SELECT	it memorizes the second digit	2 c 0023
HOLD	it increases the third digit (hundreds)	2 c 0123
ENTER	it memorizes the number of animals and displays the value of the ingredient n. 1	2 1 00.00
SELECT	it memorizes the first digit (dag)	2 1 00.00
HOLD	it increases the value of the second digit (hg)	2 1 00.10
SELECT	it memorizes the second digit	2 1 00.10
HOLD	it increases the third digit (kg)	2 1 01.10
ENTER	it memorizes the value of the ingredient n. 1 and displays the value of the ingredient n. 2	2 2 00.00
HOLD	it increases the first digit (dag)	2 2 00.05
SELECT	it memorizes the first digit	2 2 00.05

HOLD	it increases the second digit (hg)	2 2 00.25
SELECT	it memorizes the second digit	2 2 00.25
HOLD	it increases the third digit (kg)	2 2 02.25
ENTER ↵	it memorizes the value of the ingredient n. 2 and displays the value of the ingredient n. 3	2 3 00.00
SELECT	it memorizes the first digit (dag)	2 3 00.00
HOLD	it increases the second digit (hg)	2 3 00.20
SELECT	it memorizes the second digit	2 3 00.20
HOLD	it increases the third digit (kg)	2 3 09.20
ENTER ↵	it memorizes the value of the ingredient n. 3 and displays the value of the ingredient n. 4	2 4 00.00
HOLD	it increases the first digit (dag)	2 4 00.02
SELECT	it memorizes the first digit	2 4 00.02
HOLD	it increases the second digit (hg)	2 4 00.72
ENTER ↵	press several times to scroll the other values, up to the 20th ingredient. The total of the recipe will be displayed	2 t 13.27

To leave the PROGRAM function, press TOTAL NET .

LOADING Ration n. 2 (number of animals)

Load the ration n. 2 for 123 animals

PRESS		DISPLAY
SELECT	it displays the loading function and the indicator moves to EXECUTION, it displays the ration n.1 and its total	1 t 0
HOLD	it searches for the ration n. 2; the number of animals with the number of recipe will be displayed	2 c 123

ENTER	the number of animals will be displayed. The right digit is blinking to indicate that the number can be changed, if necessary, with adaptation of the values of the ingredients	2 c 0123
ENTER	it confirms the number of animals; the value of the first ingredient, ready to be loaded, is displayed. The announcers blink on EXECUTION and LOAD at the same time	2 1 135

Load; the value on the display will decrease in proportion to the loaded amount.

When 85% of the load has been reached, you will hear an intermittent signal: load with care. When 100% has been reached, you will hear a continuous signal: stop loading immediately.

After 5 seconds, the alarm stops and the value of the ingredient n. 2 (ready to be loaded) will appear on the display. Proceed ...
After loading all the ingredients, the total weight will be displayed.

PROGRAMMING UNLOADING GROUPS

You want to distribute the mixture of 5000 Kg to 3 unloading groups as follows: first group 1500 Kg - second group 800 Kg - third group 2700 Kg. Even if the unloading ration has already been entered, it is still possible to change the total. For example if the quantity changes from 5000 to 5500 Kg (increase of 10%), the values are recalculated in percentage. You will therefore pass from 1500 to 1650 Kg, from 800 to 880 Kg, from 2700 to 2970 Kg. The indicator stores and reproposes the value previously programmed (5000 Kg) and not the value really loaded/unloaded (5500 Kg).

PRESS		DISPLAY
SELECT	press it twice; the indicator sets over PROGRAM. and the number of recipe 1 with the letter "t" (to indicate the total) will appear	1 t 0
HOLD	press it twice; the third recipe with the letter "t" (to indicate the total) will appear	3 t 0
ENTER	it allows to enter recipe 3, it displays the number of animals	3 c 0000
ENTER	it confirms the number of animals is zero and displays the first group (the programming is in total values)	3 1 0000
SELECT	it memorizes the first digit (units) and moves to the second (tens). Press it once more to store the second digit	3 1 0000
HOLD	it increases the third digit (hundreds)	3 1 0500

SELECT	it memorizes the third digit	3 1 0500
HOLD	it increases the fourth digit (thousands)	3 1 1500
ENTER	it memorizes the value of group n. 1 and displays the value of group n. 2	3 2 0000
SELECT	it memorizes the first digit (units); press it once more to store the second digit (tens)	3 2 0000
HOLD	it increases the value of the third digit (hundreds)	3 2 0800
ENTER	it memorizes the value of group n. 2 and displays the value of group n. 3	3 3 0000
SELECT	it memorizes the first digit (units); press it once more to store the second digit (tens)	3 3 0000
HOLD	it increases the value of the third digit (hundreds)	3 3 0700
SELECT	it memorizes the third digit	3 3 0700
HOLD	it increases the value of the fourth digit (thousands)	3 4 2700
ENTER	Press several times to scroll the other values, up to number 20. The total of the recipe will be displayed	3 t 5000

To leave the PROGRAM function, press TOTAL/NET .

UNLOADING Ration n. 3 (groups)

Unload ration n. 3 of 5000 Kg to 3 groups

PRESS		DISPLAY
SELECT	it displays the unloading function (indicator over EXECUTION). Press it twice to display the third recipe	3 t 5000
ENTER	it confirms the unloading function and displays the total of ration n. 3. The right digit blinks to indicate it is still possible to change the total of the ration with adaptation of each ingredient	3 t 5000
ENTER	it confirms the execution of ration n. 3 and displays the first unloading group.	3 1 1500

Unload; the value on the display will decrease in proportion to the unloaded amount (this value refers to group number 1).

When 85% of the unloading has been reached, you will hear an intermittent signal: the unloading is ending. When 100% has been reached, you will hear a continuous signal. After a few seconds the residual weight value will be displayed

After 5 seconds, the alarm stops and the value of the second group (ready to be unloaded) will appear on the display. Proceed until all the groups have been unloaded.

EXTRA FUNCTIONS IN RATION EXECUTION

HOLD FUNCTION (WEIGHT FREEZE)

When you are loading or unloading the ingredients of a recipe and the feeder is moving or standing on uneven ground, it is sometimes useful to freeze the weight value. In order to do that, press the key HOLD once. The indicator sounds every 5 seconds to remember the blockage. Press the same key to disconnect the blockage.

Make sure that at the time of blocking and unblocking the machine and the augers have been firm for some seconds (the weight value must be steady) and that there are no points of support on the under weighing part, otherwise there could be variations in the total weight.

PROGRAMMED WEIGHT RESTORE FUNCTION

While you are loading or unloading and the feeder is moving or standing on uneven ground, sometimes the displayed value does not correspond to the programmed value. To restore it, press TOTAL/NET and the correct programmed value will be displayed.

SELECTING AUTOMATIC/MANUAL PASSAGE

During the execution of loading/unloading of a recipe, the passage to the following ingredient is automatic (after 5 seconds of alarm). To have manual passage, press SELECT (LOAD/UNLO fixed indicator). When the programmed quantity is reached, the alarm goes on sounding and you have to press ENTER to proceed with the following ingredient.

STORAGE FUNCTION

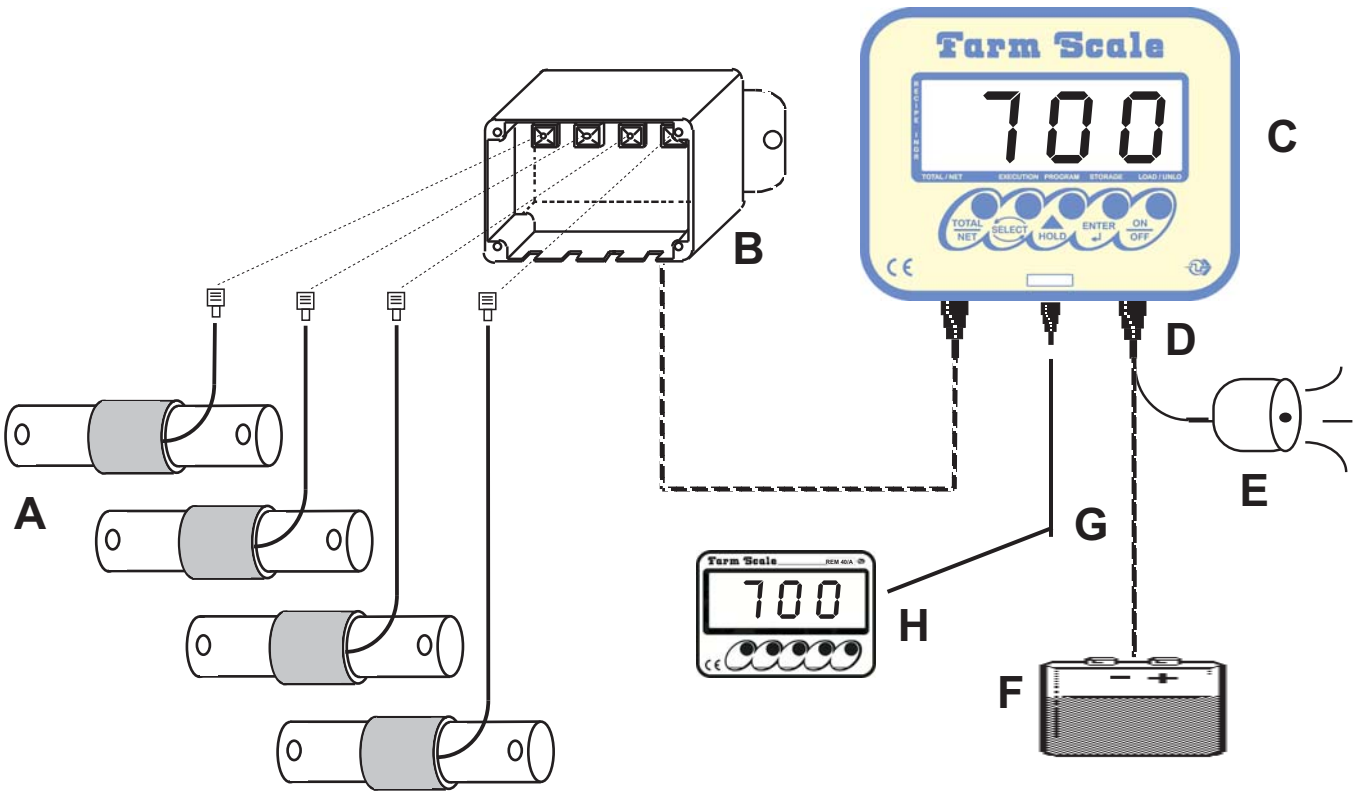
The indicator has a memory which is able to contain and sum the amount of loading made for each ingredient of each recipe. The loaded values, distinguished for each ingredient, are stored in a memory area. At any time you can check the value of every area and you can decide to zero the total memory. The capacity of every area is 65000 Kg; if you overpass this limit, the storage counter begins from zero once more.
To consult the stored loading values with the indicator in direct weight reading, press three times SELECT, press HOLD to choose the ration and ENTER to visualize the ingredient. To cancel all the stored values, in the recipe (title) keep TOTAL/NET pressed until CLR appears and confirm the operation with ENTER.

TROUBLES AND SOLUTIONS

Here is a list of some troubles and their possible solutions. If your problem is not included in this list, contact your retailer or the producer PERIN WEIGHMASTER.
Attention: switch the indicator on at least 10-15 minutes before the tests.

TROUBLES	SOLUTIONS
The system does not switch on	check connections, polarity, external fuses, battery, cables
The system switches on, but after a short time it switches off	recharge the battery or replace it; check connections, external fuses, battery, cables
Unstable value on the display	check the condition of load cells, cables and connectors
The displayed value flows towards a direction (20÷30 times in an hour)	the indicator is on. Disconnect the load cells one by one. If the problem is not caused by load cells, check the connections between the junction box, the connecting cable and the indicator
The displayed value is not correct; there is a small error in percentage	the system may have lost the correct calibration (it may have received shocks or strong vibrations). The calibration value must be reset
The displayed value is wrong (error of more than 10%)	check the zeroing while the container is empty. Make sure that there are no disturbing elements between chassis and counterchassis. Put a test weight on every corner, possibly near the load cell to locate the damage. Ask for technical assistance
While loading, the alarm does not work	check the binary connector. Use a 12 volt battery to supply the alarm device separately. Substitute it with a new alarm if necessary
The indicator displays the message "Or-L" or "Or-H"	out of range (high or low): check the connectors and the load cells cables; disconnect the load cells one by one. Substitute the damaged load cell. Restore the connections
The indicator displays the battery symbol	recharge the battery and restore the connections

SYSTEM REPRESENTATION



A) Load cells
B) Junction box and extension cable
C) Weight indicator
D) Power supply cable
E) Acoustic device (alarm)
F) Power supply source (battery 12 V)
G) StarBus cable (optional)
H) Remote display (optional)

TECHNICAL DETAILS

– MICROPROCESSOR CIRCUIT ON A SINGLE BOARD	
– POWER SUPPLY VOLTAGE	12/24 V 0,3 A
– WORKING TEMPERATURE	-10°/ +40°C
– MILITARY TYPE CONNECTORS FOR POWER SUPPLY AND LOAD CELLS	
– DISPLAY	BACKLIT LCD FOR 700 RED LED FOR 710
– DIGITS FOR THE WEIGHT VALUE	5 DIGITS h 38mm
AND FOR THE RECIPE AND INGREDIENT NUMBER	4 DIGITS h 14mm
– INDICATORS FOR: TOTAL/NET, EXECUTION, PROGRAMMING, STORAGE, LOADING/UNLOADING	
– PROGRAMMABLE DIVISIONS	1 - 2 - 5 - 10 - 20
– MAXIMUM RESOLUTION	24 BITS
– MEMORY FOR	20 RECIPES
EACH ONE WITH	20 INGREDIENTS
– PROGRAMMING WITH NUMBER OF ANIMALS OR IN TOTAL VALUES	
– AUTOMATIC PROPORTIONAL CALCULATION OF EACH INGREDIENT ACCORDING TO THE PLANNED NUMBER OF ANIMALS	
– INGREDIENTS CAN BE USED BOTH FOR LOADING AND FOR UNLOADING	
– NOTICE AT 85%, ALARM FOR 5 sec. WHEN LOADING/UNLOADING IS OVER	
– "Err Out" MESSAGE IN CASE OF SHORT CIRCUITS AT THE ALARM OUTPUT	
– [- +] IN CASE OF LOW BATTERY LEVEL	
– HOLD AND WEIGHT RESTORATION FUNCTIONS	
– ZEROING AND CALIBRATION BY KEYS	
– HERMETIC ABS BOX	

ACCESSORIES ON DEMAND

Remote displays

Our remote displays allow high visibility at a distance also in conditions of poor illumination or direct sunlight.

- Sealed ABS box.
- Slide tool with dovetail for fixing.
- Connection to weight indicator by means of StarBus cable (several lengths).
- Connection to radio kit.

LCD REM/40A numerical
LCD with digits 40 mm high
L 175 x H 130 x W 105 mm

LED REM/40B numerical
LED with digits 40 mm high
L 175 x H 130 x W 105 mm

LED REM 57 numerical
LED with digits 57 mm high
L 315 x H 130 x W 105 mm

LED ALFA alphanumerical
LED with digits 30 mm high
L 315 x H 130 x W 105 mm

CE Declaration of conformity

CE

The producer

PERIN WEIGHMASTER SRL
Viale A. Moro 7
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declares that the below-mentioned equipment is in accordance with the essential requirements of the applicable directive:

1 Electromagnetic Compatibility Directive 89/336/CEE modified by 92/31/CEE, 93/68/CEE, 93/97/CEE

Denomination	Weighing System
Model	700/710

Applied harmonized law:
- CEI EN 61326

Codogno, 02 November 2004

The technical head

Fabio Perin

Fabio Perin

NOTES