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# 1 GENERAL INFORMATION

## 1.1 SAFETY STANDARDS

The Commission of the European Community requires that every electronic device must be furnished with the CE mark, as a guarantee of its presumed conformity to the requirements imposed by the applicable Community Directives.

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### **CERTIFICATO DI CONFORMITÀ**                      **n. 002/99** **Certificate of conformity**

SI DICHIARA CHE IL PRODOTTO:  
We declare that the product:

<b>MODELLO:</b> <b>Model:</b>	<b>HAPPY FEEDER II</b>
<b>DESCRIZIONE:</b> <b>Description:</b>	<b>Sistema di pesatura semplice</b> <b>Simple weight system</b>

RISPONDE AI REQUISITI DELLE NORME DI CONFORMITA ARMONIZZATE RICHIESTE DALLA DIRETTIVA 89/336.  
is made in conformity with the following directives and standards required by 89/336.

Norma di base:      EN 50081-1  
                            EN 55014  
                            EN 55022  
                            EN 60555-2  
                            EN 60555-3

NORMATIVA STANDARD PER LE EMISSIONI ELETTROMAGNETICHE.  
EMC generic standard for emission.

Norma di base:      EN 50082-1  
                            IEC 801-2  
                            IEC 801-3  
                            IEC 801-4

NORMATIVA STANDARD PER L'IMMUNITA' ELETTROMAGNETICA.  
EMC generic standard for immunity.

POGGIO RUSCO,

12/02/1999

Questo documento è di proprietà esclusiva Dinamica Generale s.r.l  
E' vietata la riproduzione, anche parziale.

If the device described in this manual is not installed and used in strict conformity with the instructions described below, it may function improperly and cause the improper functioning of other nearby or connected devices.

The Directives also require that before this device can be released on the market it must be indelibly and visibly marked, in an easily readable form, with its maximum capacity in both kilograms and tons.

The product identification label with the real Maximum Capacity of the entire weighing system is located on the left side of the machine; the value for the Maximum Capacity is the lesser of those of the instrument, the sensors and the mechanical structure of the carriage.

Any unauthorised modifications or interventions performed on the equipment could void its conformity with the Directives and render its use prohibited.

The equipment has been tested and found in conformity with the Directives under test conditions that anticipate the use of shielded cables and accessories conforming to the requirements of the Directives.

Therefore, conformity with the Directives is guaranteed only if original spare parts and accessories are used. If, on the other hand, non-original accessories are used, consult the *Customer Technical Support Department* for additional information.

## 1.2 IMPORTANT SAFETY RULES

Before connecting the device to electric power, read the following Safety Rules, to protect yourself and the equipment from possibly serious damage.

It is recommended that you take the actions listed below before proceeding to use the equipment:

- Carefully read all the documentation included with the equipment.
- Obey all of the instructions and precautions relative to the equipment.

Immediately disconnect the Power Cable and Alarm in the following cases:

- If the connection cables or connectors are worn or damaged.
- If liquid is present, even in the form of condensation, inside the equipment.
- If the equipment housing displays damage or breakage.
- If you believe that the equipment is in need of maintenance or repair.
- Before opening the equipment housing.
- Before performing any type of maintenance operation.

**Attention:** electrical equipment can be dangerous if used in an improper manner. The functioning of the equipment and all of the parts that comprise the Weighing System must always occur under the strict supervision of an adult. Do not permit children to have access to the internal parts of any electrical equipment and prevent them from handling cables of any type.

**Attention:** before cleaning the mixer wagon with jets of water under high pressure, protect the equipment from possible water ingress. In addition, take great care not to subject the indicator, load cells, junction box, audible alarm, cables or any other option to any direct jets of water.

**Attention:** before performing any welding operations on the mixer wagon, always disconnect the connection cables. Check that there are no sensor connector cables in the area to be welded. To avoid welding current passing through the sensors, it is necessary to “short-circuit” the sensor body with a cable of adequate diameter, in addition to positioning the earth clamp as close as possible to the welding point. Contact the *Customer Technical Support Department* for additional information.

**Important:** If the equipment presents a problem that is not dealt with in the documentation provided, contact the *Customer Technical Support Department*. Interventions by unauthorized persons will invalidate the Warranty Conditions. Contact the *Customer Technical Support Department*.

### 1.3 MAINTENANCE

Weighing Systems for mixer wagons do not require any special maintenance operations. To prevent operational problems or breakdowns, it is nevertheless recommended that you periodically perform the following checks:

- Verify the perfect operation of the electrical system external to the equipment, checking, in addition, that there is no humidity or corrosion at the connection points.

Remember that in places where food is handled, there are often small rodents that attack the cables in places that are not very accessible.

- Verify that the voltage of the electrical power to the equipment is within the following values: 11-18 volts.
- Verify that the sensors are not scratched; the presence of any rust on the external surface of the sensors will not affect its proper functioning.
- Pay special attention to the presence of any cracks in the sealant, in as much as this could cause ingress of humidity.
- Verify, by loading the mixer wagon with a known weight (min. 500 kg), that the weight displayed on the device corresponds to the weight loaded.
- Verify the tightness of all the fixings on the parts that relate to the Weighing System.

**Attention:** before cleaning the mixer wagon with jets of water under high pressure, protect the equipment from possible ingress of water. In addition, take great care not to subject the indicator, load cell, junction box, audible alarm, cables or any options to direct jets of water.

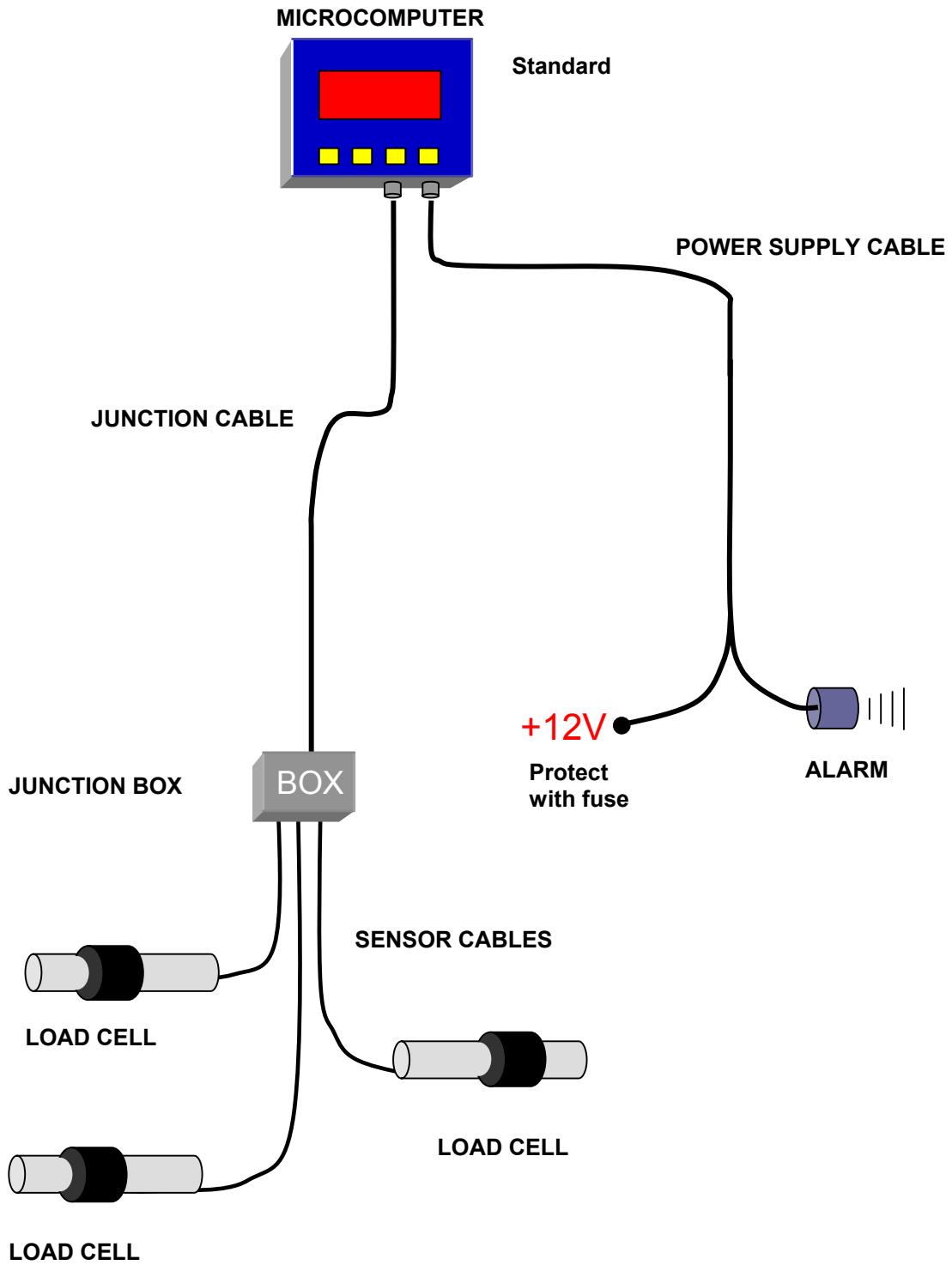
**Attention:** if the equipment needs to be cleaned, use a soft, damp, lint-free cloth. Never use sprays, solvents, abrasives, or sharp or pointed objects that could damage the indicator.

**Attention:** any unauthorized modifications or interventions made to the equipment could void its conformity to the Directives and render its use prohibited.

## 2 TECHNICAL DATA

<b>Range (f.s.):</b>	0 - 19.999 kg
<b>Resolution:</b>	1 - 2 - 5 -10 kg
<b>Precision:</b>	< +/- 0,015 % full-scale
<b>Operating temperature:</b>	between -20 / +60 °C
<b>Input voltage:</b>	9 – 18 Vd.c. (LOW BATTERY alarm < 9,0 V d.c.)
<b>Dimensions (mm):</b>	220 x 200 x 100
<b>Weight (gr):</b>	2000
<b>Case:</b>	IP65 protection Polyamide (PA) 30% fibre glass, noise shielded
<b>Display:</b>	high efficiency 40 mm high 5 digit LED red diode display
<b>Visibility display:</b>	From 15 meters or more
<b>Printer:</b>	The PRINT function cannot be used for this indicator

# 3 CONNECTION DIAGRAM



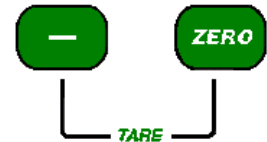
## 4 MICROCOMPUTER USE

### 1) START UP

Turn the instrument ON using the ...  ...button, wait for the display to show... r. XXX, then -----, and then XXXX ( a weight ).

### 2) CALIBRATION

If the instrument indicates a weight over 14÷20 kg, calibrate by pressing the MINUS and ZERO buttons at the same time until the message END appears.



### 3) PROGRESSIVE WEIGHING

You are now ready for the progressive weighing (as you load the machine the weight increases and as you unload it decreases).

### 4) LOADING WITH ALARM


a) Turn ON the instrument as indicated in point 1) and 2).

b) Press the PLUS and MINUS buttons at the same time.



c) When the display shows ... -AL- ... release the buttons.

d) After ... -0- ... appears set the weight by pressing the PLUS and MINUS buttons individually.

e) Confirm the set weight by pressing the ...  ... button before loading (the weight to be loaded is underlined by 4 flashing dots). When 85% load is reached an intermittent alarm will come on and then sound continuously at 100%



f) After 5 seconds the weight displayed goes over to the total weight.

g) Repeat the same procedure for each item to be loaded starting from point b).

### 5) UNLOADING WITH ALARM

Follow the same procedure as for LOADING WITH ALARM from point 4b.  
The instrument automatically recognises the unloading/distribution phase.

**NB:** if an alarm weight has already been set and the weight varies during movement, it is possible to re-set it by pressing these buttons in sequence:

first  and then 

## 5 SUPPLEMENTARY FUNCTIONS

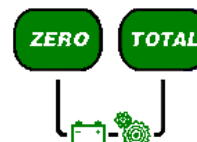
### 1) TOTAL

This button allows the operator to use progressive weighing at any time and it displays the total weight of the load already inside the mixer since the last tare operation performed on the scale.



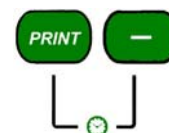
### 2) BATTERY CONTROL

Press both the ZERO and the TOTAL buttons at the same time and the battery voltage will be displayed (minimum 10V dc.)



### 3) HOURS AND MINUTES

This function is not available.



### 4) PRINT

This function is not available.





# 6 SEARCHING FOR FAULTS

## 6.1 HOW TO FIND OUT THE DAMAGED COMPONENTS

### 6.1.1 Check the working of the indicator



Weight Simulator

- Connect the WEIGHT SIMULATOR (calibrator) with the lever in position “Var” (varying) to the connector SENSORS of the indicator.
- Do the TARE by pressing at the same time the keys MINUS and ZERO.
- The indicator has to become stable displaying “0” kg.
- Verify the correct working of the scale by turning the WEIGHT SIMULATOR knob (the clockwise increases the weight, the counter-clockwise decreases the weight).

IF EVERYTHING WORKS CORRECTLY, THE INDICATOR DOES NOT HAVE ANY PROBLEM AND IT IS NECESSARY TO GO ON WITH THE FOLLOWING CHECKS.

IF THERE IS A PROBLEM WITH THE SCALE INDICATOR, CONTACT THE SERVICE DEPARTMENT FOR ADVICE

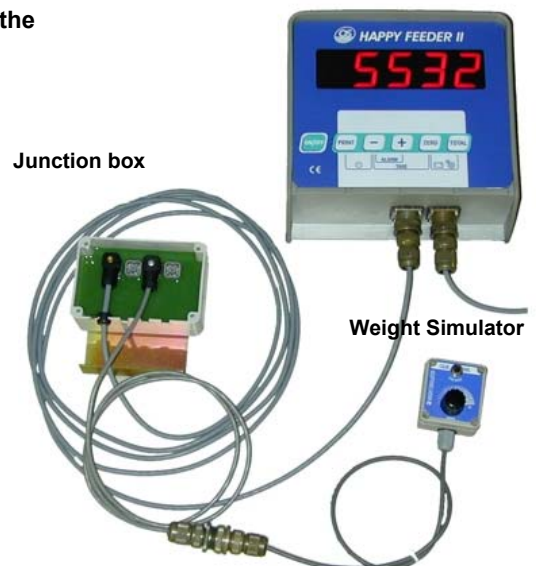
### 6.1.2 Check the JUNCTION CABLE and the JUNCTION BOX

- Open the JUNCTION BOX.
- Disconnect the SENSOR CABLES leaving connected only the cable that goes to the scale indicator (JUNCTION CABLE).
- Connect the WEIGHT SIMULATOR using the proper adapter in the place of one sensor.
- Do the TARE by pressing at the same time the keys MINUS and ZERO.
- The scale has to become stable displaying “0” kg.
- Verify the correct working of the scale by turning the WEIGHT SIMULATOR knob (the clockwise increases the weight, the counter-clockwise decreases the weight).

REPEAT THE TEST BY CONNECTIN THE WEIGHT SIMULATOR IN THE PLACE OF EACH SENSOR CABLE/LOAD CELL

#### TEST RESULTS AND SUBSEQUENT ACTIONS

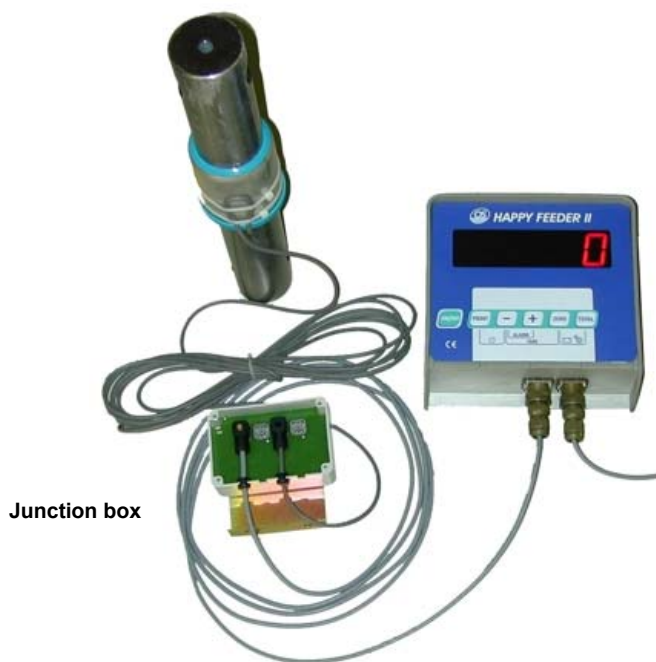
- If the function is correct, the JUNCTION CABLE and the JUNCTION BOX do not have any problems, it is then necessary to check each LOAD CELL and SENSOR CABLE.
- If the working is correct only for some positions, this is probably due to the JUNCTION BOX (try to replace it).
- If the working is not correct, it is necessary to replace the JUNCTION CABLE (and perhaps also the JUNCTION BOX)





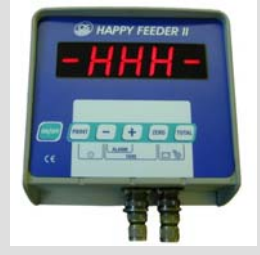


### 6.1.3 Check the LOAD CELLS and SENSORS CABLES

- a) Open the JUNCTION BOX.
- b) Connect only one SENSOR CABLE/LOAD CELL and the cable that goes to the indicator (JUNCTION CABLE).
- c) Do the TARE by pressing at the same time the keys MINUS and ZERO.
- d) The scale indicator has to become stable by displaying "0" kg.
- e) Verify the correct working by trying to load cell (the displayed weight is not indicative but it has to be stable).
- f) Check SENSORS CABLES for signs of damage – damaged cables can be repaired by splicing and heat shrink sealing.

REPEAT THE TEST BY CONNECTING EACH LOAD CELL/SENSOR CABLE INDIVIDUALLY.



## 6.2 SOME PARTICULAR SITUATIONS

	CAUSE	SOLUTION
<p><b>MOTION ALARM</b></p> 	<p>The signal coming from the load cells shows sudden and important weight changes.</p> <p>A connection cable or a load cell does not work correctly.</p>	<p><b>Solution1:</b> do the TARE (MINUS+ZERO).</p> <p><b>Solution2:</b> do the calibration with password 23 o 45 and then do the TARE (MINUS + ZERO).</p> <p><b>Solution3:</b> follow the procedures to check the CABLES, JUNCTION BOX and SENSORS.</p>
<p><b>IT DOES NOT SWITCH ON</b></p> 	<p>The power supply does not reach the microcomputer.</p>	<p><b>Solution1:</b> check very carefully the power connection cable.</p> <p><b>Solution2:</b> check the efficiency of the power supply system ( minimum 9 Volts / 0.5 A ).</p> <p><b>Solution3:</b> ship the microcomputer to manufacturer for the repair.</p>
<p><b>OVERRANGE ALARM</b></p>  	<p>The microcomputer can not read the signal of the load cells: the load cell connection cable does not work correctly.</p> <p>A connection cable or a load cell does not work correctly.</p> <p>The signal coming from the sensors is out of the valid "RANGE" (see the password 99)</p>	<p><b>Solution1:</b> do the TARE (MINUS + ZERO).</p> <p><b>Solution2:</b> do the calibration with the password 23 o 45 and then do the TARE (MINUS + ZERO).</p> <p><b>Solution3:</b> follow the procedures to check the CABLES, JUNCTION BOX and SENSORS.</p>
<p><b>LOW BATTERY ALARM</b></p> 	<p>The power to the microcomputer is lower than the fixed value.</p>	<p><b>Solution1:</b> check the condition and function of the battery.</p> <p><b>Solution2:</b> check the CABLES that supply the power from the BATTERY to the MICROCOMPUTER.</p>
<p><b>UNSTABLE weight</b> The weight reading fluctuates tens or hundreds kg</p>	<p>The signal coming from the load cells is jammed: a cable or a load cell does not work correctly.</p>	<p><b>Solution1:</b> follow the procedures to check the CABLES, JUNCTION BOX and SENSORS.</p>

## **7 WARRANTY**

For a period of 12 months from the delivery, the supplier makes the following guarantees for equipment that it manufactured bearing its factory mark or serial number: that the materials used are free of defects, that the equipment was properly manufactured and will function properly. During the warranty period, the supplier undertakes to see to the repair or replacement, F.O.B. the factory, of parts defective due to material or manufacturing defects, so long as said parts are delivered to the factory freight prepaid.

The warranty excludes deficiencies or defects caused by improper use of the equipment, inadequate maintenance, modifications made without authorisation from the manufacturer and normal wear.

The manufacturer excludes responsibility and compensation for direct or indirect damage to persons, objects or production, even as a consequence of the defective functioning of the supplied equipment or of defects of materials or manufacture.

### **NOTES:**