

USER MANUAL ELECTRONIC CRANE SCALE



MCWN “NINJA”



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1 GENERAL INFORMATION

1.1 INTRODUCTION

Dear Customer,

We thank you for choosing a Dini Argeo product and we invite you to carefully read this manual before carrying out any operation on the instrument that you have purchased.

It is of utmost importance that the main checks and maintenance or repair interventions be recorded in the appropriate section of the SAFETY MANUAL AND DYNAMOMETR'S MAINTENANCE.

Therefore we kindly ask you to carefully keep this booklet and present it to the manufacturer Dini Argeo or to the authorised reseller each time that it is necessary to carry out maintenance, repair, or replace spare parts / accessories on the instrument.

NOTE:

This manual is an integral part of the instrument and if sold, it must be given to the new owner.

1.1.1 Designation of the machine and manufacturer data

The "MCWN" is a precision electronic weighing machine, it is to be considered as equipment, removable after carry out its weighing function. Its installation on the lifting system should be limited to the needs of weighing requirements and must be removed after operation. The dynamometer is suitable to be used on overhead gantry cranes, fixed cranes, hiab's or similar lifting equipment.

It is made up by a tension load cell, an electronic device for weight measuring and indication, a shackle for the connection between the lifting device hook and the load cell, and by a shackle for the connection between the lifting device and the load cell, and the grip load devices. The shackles for the connection are an integral part of the instrument and cannot be removed or replaced. The use of the instrument without the shackles is not allowed.

Normally the remote command of the measuring instrument takes place through an infrared ray system.

It is possible also to use radio devices both for the remote commands as well as for the data transmission (RF).

In relation to the load cell and shackle sizes, the equipment can have maximum capacities ranging from 1 t to 9t.

Finally, the instrument may be supplied suitable for use in Trade Approved (M) form or for internal use only.

In the event that the instrument is to be used for internal use only it is characterised by the option to operate in multiple weighing ranges each with its own resolution (division: B1W1, B1W2, B1W3) see section "MARKING"

This manual takes into consideration the various types.

MANUFACTURER'S DATA:

DINI ARGEO srl – via della Fisica , 20 - 41042 Spezzano di Fiorano (MO) - Italy

Tel. 0536-843418 E-mail info@diniargeo.com web www.diniargeo.com

1.1.2 Premises

The purpose of this manual is for the user to know all the fundamental norms and criteria for the installation, the correct use and for carrying out the correct maintenance of the purchased instrument.

Therefore:

- This manual contains all the scale's user instructions and the necessary knowledge for its correct and safe use.
- This manual supplies useful instructions for the correct functioning of the relative electronic crane scale; it is therefore important to pay careful attention and refer to all those sections which illustrate the simplest and safest way to operate.
- This publication, or any part of it, can be reproduced without the written authorisation by the Manufacturer.

PS: The person responsible for the use of the weight indicator must make sure that all of the safety rules in force in the country of its use should be applied, to guarantee that the equipment is used in conformity with the use for which it is destined and avoid any dangerous situation for the users.

Any attempt of tampering or modifying the instrument by the user or non authorised personnel, or improper use, or different than what is foreseen in this manual, will relieve the Manufacturer from all responsibility in the case of damages caused by people or things.

1.1.3 Symbols

Please find below the symbols in the manual which recall the operator's attention, in regards to the various danger levels. The danger levels will be subdivided in four classes of importance:



DANGER !!



Concept or procedure which, if not carried out accurately, causes the danger or harsh personal injuries in case of accident.



CAREFUL !!



Concept or procedure which, if not carried out accurately, can cause harsh personal injuries or damages to the instrument in case of accident.



CAUTION !!



Concept or procedure which, if not carried out accurately, can cause damages to the instrument or materials, or adjacent to it, in case of accident.



WARNING: Important information or procedure which advises the operator regarding the optimal use of the system and on all the connected work modes.

Besides the symbols of the four different danger levels, other symbols used, will be shown:

- in the manual to recall the attention of the reader;
- on the instrument to recall the attention of the user.



Declaration of Conformity.



Identifies the Class Of Precision defined by the OIML to represent 3000 divisions

“TECH.MAN.REF.”

Means that an advanced function is being described (therefore for the technical personnel) which will be further explained in the corresponding technical manual.



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.



It is forbidden to halt or transit under suspended load.

1.1.4 General Instructions

The warnings shown in this manual recall the ATTENTION OF THE OPERATOR in regards to information or procedures which advise the best use of the equipment in order to:

- work safely;
- lengthen the duration and functionality;
- avoid the damages or loss of the programming;
- optimise the work by taking into account the metric and safety norms in force in the country where it is used;



The crane scale is to be considered a scale, and therefore should only be used as a weighing instrument. Therefore any improper use, or different than what is foreseen in this manual, will relieve the Manufacturer of all responsibilities in case of damages, direct or indirect, caused to people or things.

For the indications and warnings for working in safety conditions see *the SAFETY MANUAL AND DYNAMOMETR'S MAINTENANCE*.

1.1.5 User: Professional features

The staff assigned to the electronic crane scale and all activities related to it must:

- Have appropriate physical and mental characteristics;
- Be an expert or have sufficient knowledge on lifting equipment and be trained in the proper use of scales;
- Be familiar with the requirements of labour protection and accident prevention in the field;
- Be able to evaluate the safety condition of the lifting equipment;
- Understand the safety signs on the machine, the warnings and the messages highlighted in the manual of the instrument, even if he does not have a good command of the language in which the crane operates;
- Be able to make oneself understood in the workplace.
- Read the manual of safety and maintenance of the crane scale

1.1.6 Location

The operator of lifting equipment, which was installed on the crane scale, must not only respect the safety conditions but is also responsible for accidents that may occur around the machine.

Therefore, the operator must place himself in a working position which is safe for people, things, and vehicles in the workplace. In particular, the operator must:

- Be very careful to never position below the load or in positions which could be dangerous if there was a rupture of an accessory of lifting equipment;
- Always have a good visibility of the load and eventual personnel nearby;
- Evacuate the people and things from the work area;

1.1.7 Clothing and equipment

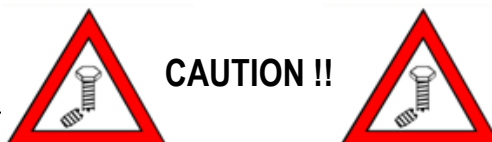
The personnel must wear clothing and be fitted with personal protective equipment required for the lifting vehicle used (helmets, protective gloves, safety shoes, etc..)

1.1.8 Declaration of conformity

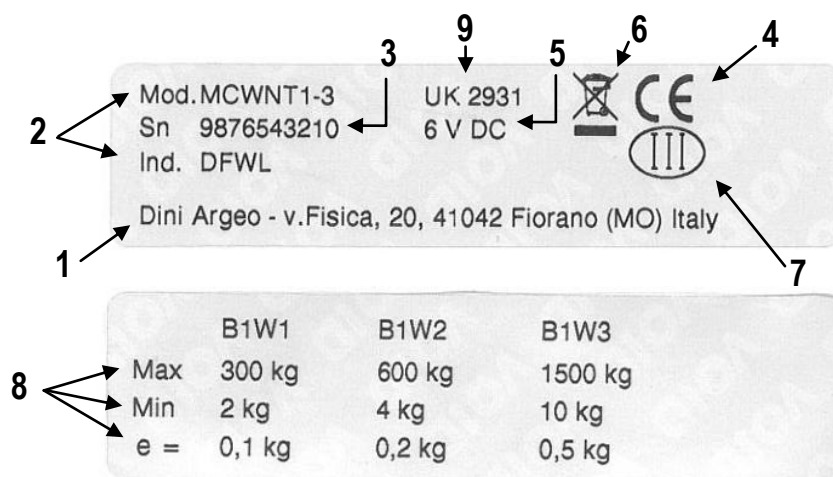
The declaration of conformity is available for each product. It can be downloaded through the serial number from the dedicated section on www.diniargeo.com

1.1.9 Markings

On the equipment, in relation to the allowed use, one will find a label on which there are shown the metrological and technical information as well as the relative CE marking of the instrument.



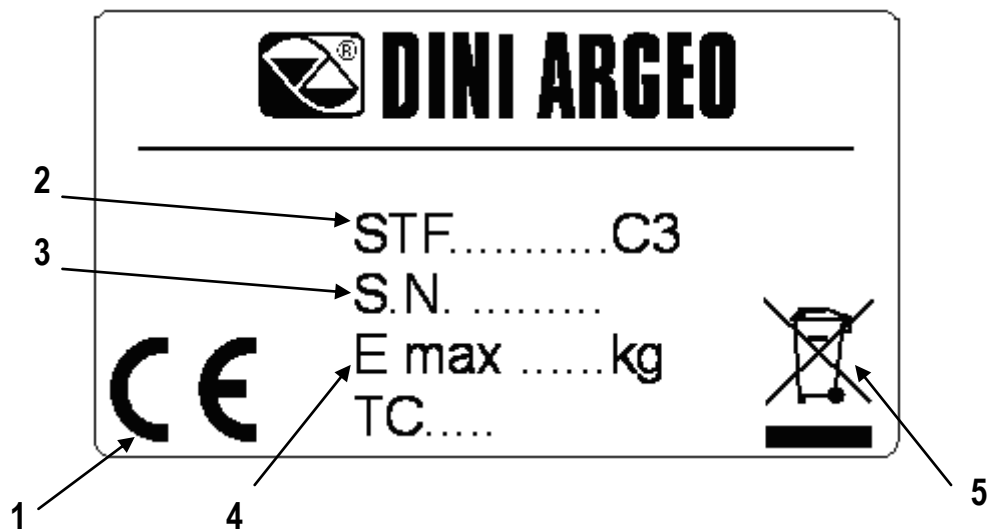
For no reason the data or closing and legalisation seals on the instrument's plate, must be modified or removed. In case of tampering or removal of this information, the warranty of the instrument ceases, and the manufacturing company is released from any eventual damage, direct or indirect, caused to people or to things.
THE LABELS ARE OF THE ADHESIVE TYPE, WHICH DETACH THEMSELVES WHEN DESTROYED.



In which:

- 1 Company name and fabrication status
- 2 Name of the machine model and the type of installed electronic device
- 3 Serial Number (sn)
- 4 CE Markings
- 5 Power supply voltage
- 6 Symbol of the dumpster: indicates that at the end of its useful life the product must be disposed in the appropriate waste collection bins
- 7 Instrument's precision class
- 8 Measuring (*field for devices suitable for internal use, multi-range):
Max= maximum capacity or full range of the instrument;
Min= minimum weigh. Weighing accuracy is not guaranteed below this value;
e= division value
- 9 Space reserved for the number of the notified body

Markings on the load cell:



In which:

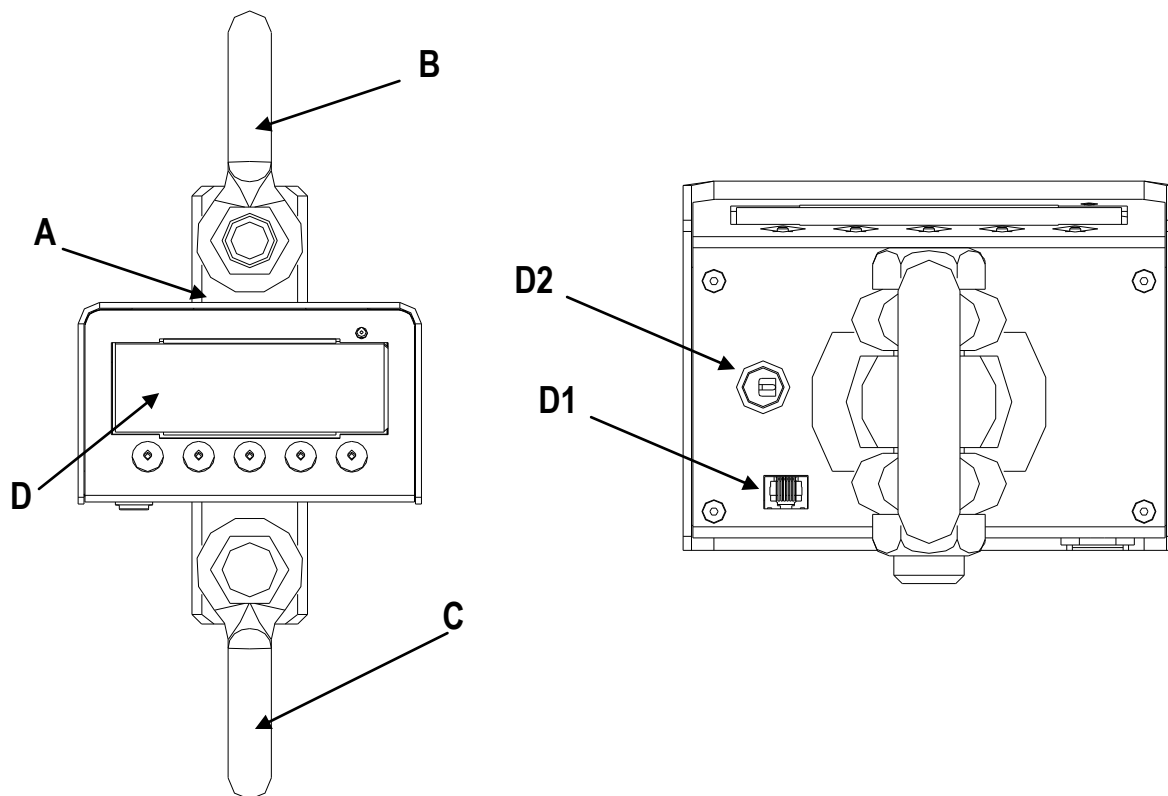
- 1 CE marking
- 2 Name of the series or model of the load cell
- 3 Serial number (sn)
- 4 Maximum useful load (maximum capacity)
- 5 With the issuing of the July 22nd, 2005 nr. 151 decree-law, relative to the European Directive 2002/96/EC in regards to the Waste Electrical and Electronic Equipment (known as WEEE), the relative manufacturers are called to intervene and manage the life cycle end of their introduced products. All the WEEE products must have impressed an easily visible and undeletable crossed-out dumpster. Therefore the manufacturers must offer all the instruments necessary for a correct disposal of this equipment.

1.1.10 Periodic metrological verification

For all weighing instruments used in commercial transactions, it must be ascertained that the metrological features and the measurement reliability are kept in time. A periodic metrological verification is, therefore compulsory; the periodicity and the verifying person depend on the laws / regulations of the country in which one is operating.

1.2 TECHNICAL FEATURES OF THE WEIGHING SYSTEM

1.2.1 Main components



- A:** body in which there is the tension load cell;
- B:** shackle for connection between the lifting device hook and the load cell;
- C:** shackle for connection between the load cell and the load-gripping devices;
- D:** electronic device for converting the signal coming from the transducer into a weight unit, with measurement display, and command and adjustment systems;
- D1:** standard RJ 45 connector for RS232 serial connection to eventual external devices;
- D2:** hole predisposed for the outlet of the antenna (in the RF version);

1.3 SAFETY MANUAL AND DYNAMOMETER'S MAINTENANCE

It's possible download dynamometer's safety and maintenance manual from our web site
www.diniargeo.com

2 DESCRIPTION OF THE MACHINES AND CONTROLS

2.1 POWER SUPPLY-START UP-SWITCH OFF

The instrument is supplied by 4 AA type batteries, to put in the battery box.

In order to avoid problems with the batteries, it is recommended to take into account the following instructions:

- do not mix together different types and/or old and new batteries.
- if the electronic crane scale is not used for a long time, remove the batteries from the battery box in order not to cause damage to both the batteries and the electronic crane scale.
- dispose of the batteries in a recycling container according to local regulations.

The electronic crane scale displays the message "Low.bat " when the batteries are about to complete their life cycle. In this case it is necessary to replace the batteries.



TO TURN ON the instrument press the C key until the indicator turns on; then release.

TO TURN OFF the instrument keep the **C** key pressed until the “- OFF -” message appears on the display; then release the key.

2.2 FRONT PANEL KEYS AND INDICATORS

The front panel of the indicator is designed for quick but simple weighing applications. It consists of a display to 6 digits 25mm high, a film waterproof keyboard with 5 keys. During the weighing, different symbols indicating the status of multifunction operation are also activated (see section "SYMBOLS ON THE LCD DISPLAY").

IR interface is a Sensor for the reception of the remote control signal.



Key ZERO 	<ul style="list-style-type: none"> - Zeros the displayed gross weight, if it is within +/- 2% of the total capacity. - Cancels the negative tare value. - When entering numbers it decreases the digit to be modified. - If pressed for a long time, it allows to enter the MENU of the backlit (L . int)
Key TARE 	<ul style="list-style-type: none"> - If pressed for an instant it carries out the semiautomatic tare. - If pressed at length it allows entering the manual tare from keyboard. - Cancels the negative tare value. - In the numeric input phase it increases the digit to be modified.
Key MODE 	<ul style="list-style-type: none"> - It carries out a specific function of the operating mode set in the set-up environment. - In the numeric input phase it selects the digit to be modified, from left to right. - If pressed for a long time, it allows to enter the configuration MENU
Key PRINT 	<ul style="list-style-type: none"> - In the numeric input phase, it confirms the entry made. - In the SET-UP, it allows to enter a step or to confirm a parameter within a step. - It transmits the data from the serial port dedicated to the printer. - If pressed for a long time, it allows to enter the user MENU
Key C 	<ul style="list-style-type: none"> - It turns the instrument on and off. - In the numeric input phase, it quickly zeros the present value. - In the SET-UP, it allows to exit a step without confirming the change made. - Allows viewing the scale's metric information: capacity, division, minimum weigh for each configured range.



CAUTION!!



Do not press the keys with hard and/or pointed objects; only use fingers.

2.3 ADVANCED FUNCTIONS AND CONFIGURATION MENU

Crane scale allows to use the "PEAK" function:

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



5 SEC. = Configuration MENU (REF. USER_MAN_ENG_DFW_v04_R2).



= By pressing MODE, the value of the weight is held on the display, and the display shows "hold", alternately with the held weight value (every 5 sec). To release the weight value on the display, press MODE key again (the "normal" message is displayed). (RIF. USER_MAN_ENG_DFW_v04_R2).



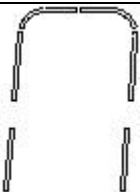
5 SEC.= Enter the user MENU. (RIF. USER_MAN_ITA_DFW_v04_R2).

2.3 SYMBOLS ON THE LCD DISPLAY

The LCD display has symbols which show the indicator's functioning status; you will find the description for each symbol below.



NUMBER	SYMBOL	FUNCTION
(1)	$\rightarrow 0 \leftarrow$	The weight detected on the weighing system is near zero, within the interval of $-1/4 \div +1/4$ of the division.
(2)	\sim	The weight is unstable.
(3)		The time is being shown on the display, in the "HH:MM:SS" format.
(4)	NET	The displayed weight is a net weight.
(5)	G	The displayed value is a gross weight, if the Italian or English language is selected in the print configuration.
(6)	B	The displayed value is a gross weight, if the German, French or Spanish language is selected in the print configuration.
(7)		Indicates the battery charge level: see section "LOW BATTERY WARNING".
(8)	MAX= MIN= e=	When viewing the metric information, it identifies the indicated capacity range. When viewing the metric information, it identifies the indicated minimum weigh range. When viewing the metric information, it identifies the indicated division range.
(9)	LT	The locked tare is enabled.
(10)	PT	The manual tare is active.
(11)	W1 W2 W3	The instrument is in the first weighing range. The instrument is in the second weighing range. The instrument is in the third weighing range.

(12)	PCS	The number of pieces is being displayed.
	kg	Indicates the unit of measure in use ("kg" for kilogram, "g" gram).
	t	Indicates the unit of measure in use (tons).
	LB	Indicates the unit of measure in use (pounds).
(13)		These are displayed around the digits with higher sensitivity, when viewing the weight x 10.
(14)	*	Indicates that a key has been pressed.

2.4 BASIC FUNCTIONS

2.4.1 Functioning with remote control

"19-key" infrared remote control

The command system is "directive", therefore the receiving measurement device must be "in view"; the maximum functioning distance is 8m. With this type of remote control, the functioning of the keys will be as described in the following table.

FUNCTION OF THE KEYS



REMOTE CONTROL KEY	KEY OR FUNCTION EMULATED
F1	It allows to select the desired function. If pressed at length it changes the display intensity.
C	C key or stand-by function if pressed at length.
NUMERIC KEYS	Entry of digits.
TARE / ▲	Tare key or increase of a digit while entering a value.
.	. or display of scale info.
ZERO / ▼	Zero key or decrease of a digit while entering a value.
MODE / →	Mode key or it scrolls the digits to the right while entering a value.
PRINT / ←	Print or enter key.
F2	Not managed.
F3	Not managed.

To enable this mode one has to select "ir 19" in the << rEMotE >> step.

The type of remote control to be used must be selected in the Setup environment, in the << rEMotE >> step.

NOTA: Infrared remote controls are for internal use only.

2.5 FUNCTIONING

- 1) Suspend the instrument from the crane it will be used on and press push-button "C" for a few seconds: all segments on the display will light for a few seconds as the MCW conducts a lamp and other self-tests.
- 2) After the self-tests, if the display shows a non-zero value without a load on the scale, press the **"ZERO"** key.
- 3) If any accessories have been applied to the MCW (connection rings, chains, hooks etc.) it is necessary to press the "TARE" key (or by using the remote control's TARE button).

NOTES:

- The "TARE" key can be used with any weight applied in the range of its capacity.
 - If slings are used to handle the load, make sure that the load is properly balanced and that the slings are positioned properly.
- 4) When the display indicates "0", the instrument is ready for use.
 - 5) Hook the load
 - 6) Start lifting the load slowly.
 - 7) If the load is greater than the full-scale value (not maximum capacity), the display will show "-----", which means overload.
 - 8) To switch off the instrument, keep the C key pressed until the "– oFF –" message appears on the display.



DANGER !!



If, during the weighing operations with the crane scale, one views the "-----" (Over Load) message, one should IMMEDIATELY stop the weighing operations and quickly place on the ground the load attached on the crane scale.

3 TECHNICAL INFORMATION

3.1 TRANSPORT, HANDLING, STORAGE, AND INSTALLATION

3.1.1 Transport, handling, storage

When transporting the electronic crane scale, it is required to use their case, which protects the instrument from any knocks or shocks during their transport. Transportation must be made taking into account of the fact that the appropriate case should not be compressed from any external objects on the side or from above.

It is important that the case and the electronic crane scale are stored in enclosed spaces that meet the environmental conditions.



CAREFUL !!



Even if the weight is less than 25 kg, be careful when moving the case in order to avoid knocks or falls which could cause damages to people or to the instrument.

If necessary, carry out the handling procedure with the help of various people or with the appropriate aids.

3.1.2 Installation

Typically, the MCWN electronic crane scale is ready-to-use. Otherwise, or in case of any inspection, follow these steps in order to carry out the installation:

- Open the case containing the electronic crane scale.
- Check or install the "shackle" on top of the load cell.
- Check or install the "shackle" on the bottom of the load cell.
- Make sure that the nuts of the shackles are fully screwed and the pins are properly placed.
- Place carefully the system on the ground.
- Carefully check the suitability of the crane hook in which the crane scale will be installed.
- Connect the system to the safety hook of the crane, taking care that the "shackle" rests on the saddle of the crane hook and its lever is safely positioned.
- Once the system has been harnessed, walk away, and lift if a few inches from the floor.



CAREFUL !!



In case you need to replace the hook and/or shackle contact the Authorized Service Center.

3.2. CLEAN

If the electronic crane scale is often used in different places, especially in places with the presence of dust and moisture, it is necessary to have the instrument regularly cleaned.

Clean the keyboard of electronic crane scale with a soft damp cloth with a detergent or a mild detergent solution.



CAUTION !!

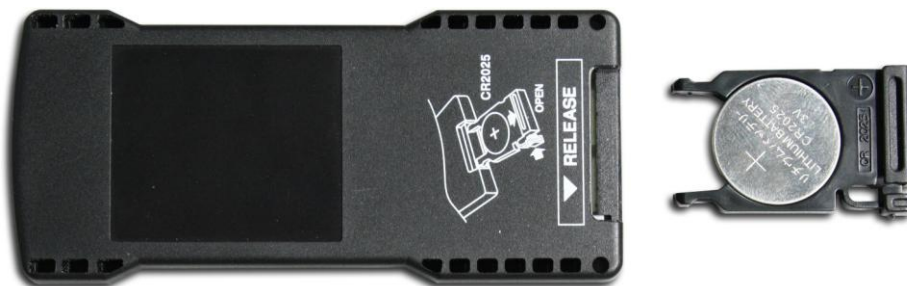


Do not use any type of solvent or industrial chemical product while cleaning the instrument and all the system parts.

3.2.1 Replacing the remote control batteries

As mentioned above, the MCWN electronic crane scale is supplied with a remote control that duplicates the functions of the keyboard. When using the remote control, the battery may die and must be replaced.

To replace the batteries in the remote control, carry out the following steps:



3.3 DECOMMISSIONING AND DISPOSAL

Each consumer should help protect the environment by reducing pollution risks and adopting a responsible attitude, according to the recycling norms in force in the country where the instrument is used.

The symbol of the crossed garbage on the product indicates that, at the end of its useful life, the product must be given to appropriate centres for collection or returned to the distributor when purchasing a new equivalent product.

A proper collection for recycling the product will prevent any negative effects on the environment and health and encourage the recycling of materials.

Therefore, before disposing the product, it is necessary to separate the components of the instrument in each recycling category and place them in the appropriate collection centres.



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.



The unlawful disposal of the product by the user causes the application of the administrative sanctions foreseen by the law.

4 WARRANTY

The two years warranty period begins on the day the instrument is delivered. It includes spare parts and labour repair at no charge if the instrument is returned prepaid to the dealer's place of business. Warranty covers all defects not attributable to the Customer (such as improper use) and not caused during transport.

If on site service is requested (or necessary), for any reason, where the instrument is used, the Customer will pay for all of the service technician's costs: travel time and expenses plus room and board (if any).

the Customer pays for the transport costs (both ways), if the instrument is shipped to dealer or manufacturer for repair.

The warranty is voided in the event that the instrument is returned or if there are damages caused by: inobservance of indications in the manual, interventions by non authorised personnel, and/or non original spare parts, user incapacity and/or improper use, incorrect maintenance, loss or impossibility of presenting the maintenance booklet.

This warranty does not provide for any compensation for losses or damages incurred by the Customer due to complete or partial failure of instruments, even during the warranty period.