inspired by precision

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EN

PROFESSIONAL BLUETOOTH SCALE

Model: **W1090**

Please read carefully this manual before using the scale

By choosing the WUNDER mod. W1090 Bluetooth professional electronic scale, you have purchased a high precision instrument.
Since over 40 years WUNDER has placed its experience at the service of health. This instrument is compliant with national standards in hospitals and clinics with medical class I with measurement function and is calibrated in conformity with accuracy class IIII. The instrument is characterised by the possibility of fixing the electronic terminal to the weighing platform by means of a column or else installing the terminal autonomously.

WUNDER reserves the right to modify its products as deemed convenient in order to approve them without being committed to update this publication.
Conventions: The following symbols have been used in this manual:

CE	0476 EC TYPE APROVAL FOR MEDICAL USE
M	METROLOGICAL CERTIFICATION AND APPROVAL
IIII	ACCURACY CLASS
	TYPE B PARTS SUPPLIED
	ATTENTION! PLACED BEFORE DETERMINING PROCEDURES. COMPLIANCE FAILURE CAN HARM THE OPERATOR OR PATIENT OR DAMAGE THE PRODUCT
	WASTE DISPOSAL
	THERE COULD BE INTERFERENCE NEAR ELECTRONIC APPLIANCES
	DUAL INSULATION (CLASS II)

GENERAL INFORMATION

Before putting the device into use, **please read with care the information given in the operating instructions.** They contain important instructions for installation, proper use and maintenance of the device. The manufacturer shall not be liable for damages arising out of failure to heed the following instructions:

- These batteries should be kept away from small children.
  If swallowed, promptly seek medical assistance.
- Expected Service Life: 5 years
- Don't leave the baby unattended on scale.
- When using electrical components under increased safety requirements, always comply with the appropriate regulations.
- Improper installation will render the warranty null and void.
- Ensure the voltage marked on the power supply unit matches your mains power supply.
- This device is designed for use indoors.
- Observe the permissible ambient temperatures for use
- The device meets the requirements for electromagnetic compatibility.
  Do not exceed the maximum values specified in the applicable standards.
- These batteries should be kept away from all children.
  If swallowed, promptly seek medical assistance.

ENVIRONMENTAL

- All batteries contain toxic compounds; disposal of batteries should be delegated to a competent organization, complying with the deposit of Poisonous Waste Regulation 1972.
- Please do not incinerate batteries.
- The optimum operating temperature for the scale is +5°C to +35°C;
  although it will operate at higher and lower temperatures the scales battery life will be adversely effected.

CLEANING

- We would recommend using alcohol based wipes or similar when cleaning the scales.
- Please do not use large amounts of water when cleaning the scales as this will cause damage to the scales electronics, you should also refrain from using corrosive liquids or high pressure washers.
- Always disconnect the scales from the mains power supply before cleaning.

WEIGHING OPERATION

- Before reading detailed instructions on how to use all the weighing functions that are built into your scale, please read the following important guidelines:
- Always be sure that the display shows `Zero` before use, if it doesn't then please press the ZERO key.
- The Professional Medical scale is designed to detect when a stable weight is achieved, the indicator will `bleep` twice to indicate a stable weight value, your reading should be taken at this point.

DISPOSING OF THE SCALE

- This product is not to be treated as regular household waste, but should be handed in to an electrical/electronic equipment recycling centre.
- You can obtain further details from your local council, your municipal waste disposal company or the firm which you purchased the product

SECURITY

Guide and manufacturer's declaration – Electromagnetic emissions		
The scale W1090 is intended for use in the electromagnetic environment specified below. The customer/user should assure that it's used in that environment.		
Emission test	**Conformity**	**Guide to electromagnetic environment**
RF Emission CISPR11	Group 1 Class B	W1090 uses RF energy only for its internal function. Therefore its RF emissions are very low and probably not cause no interference in electrical equipment.
RF Emission CISPR11	Group 1 Class B	W1090 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emission IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emission IEC 61000-3-3	Compliance	

Guide and Statement of manufacturer – Electromagnetic immunity			
The scale W1090 is intended for use in the electromagnetic environment specified below. The customer/user should assure that it's used in that environment.			
Immunity test	**IEC 60601 Test level**	**Compliance Level**	**Guide to electromagnetic environment**
Electrostatic discharge(ESD) IEC/EN61000 - 4 - 2	± 6kV contact ± 8kV air	± 6kV contact ± 8kV air	The floors should be made of wood, concrete or ceramic. If the floors are covered in synthetic material, the relative humidity should be maximum 30%.
Electrical fast transient/ burst IEC/EN61000 - 4 - 4	± 2kV for power supply lines + 1kV for input/output lines	± 2kV for power supply lines Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC/EN 61000 - 4 - 5	± 1kV line(s) to line(s) ± 2kV line(s) to earth	± 1kV differential mode Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruption and voltage variation IEC/EN61000 - 4 - 11	<5% UT for 0,5 cycle 40% UT for 05 cycles 70% UT for 25 cycles <5% UT for 5s	<5% UT for 0,5 cycle 40% UT for 5 cycles 70% UT for 25 cycles <5% UT for 5 s	The power supply should be of the type used typically in commercial or hospital environments.
Power frequency Magnetic field IEC/EN61000 - 4 - 8	3A/m	3A/m	W1090 power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note=UT is the value of the voltage of the feed.

Manufacturer's guide and declaration - Electromagnetic emissions

The scale W1090 is intended for use in the electromagnetic environment specified below. The customer/user should assure that it's used in that environment.

Emission test	IEC/EN60601 test level	Compliance level	Guide to electromagnetic environment
Conducted RF IEC/EN 61000 - 4 - 6	3 Vrms 150 KHz to 80 MHz (for appliances that are not life supporting)	3Vrms	Equipment in RF communications and mobile laptops should ot be used near any part of the tooth, including cables, except when they meet the recommended separation distance calculated by the frequency applied to the transmitter. Recommended separation distance d = 1.2 √ P d = 1.2 √ P from 80 MHz to 800 MHz d = 2.3 √ P from 800 MHz to 2.5 GHz where the P and maximum rated power output of the transmitter in Watts (W) according to the manufacturer of the transmitter and the recommended separation distance in meters (m). The intensity of the field of a fixed RF transmitters, as determined by an electromagnetic site, it could be lower than the level of compliance of each range of frequency b. You can check interference in proximity of equipment marked with the following symbol: 
Radiated RF IEC/EN 61000 - 4 - 3	3 V/m 80MHz to 2,5 GHz	3 V/m	

With 80 MHz and 800 MHz is applied the higher frequency range. These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a) The intensity of the field for fixed transmitters such as base stations for radiotelephone mobile and cordless phones) and land radio mobile, amateur radio equipment, radio transmitters in the AM and FM and TV transmitters cannot be made theoretically and with precision. To establish an electromagnetic environment due to fixed RF transmitters, it should consider the electromagnetic survey of the site. If the field strength measured at the place where you use the device, exceeds the applicable level of compliance of the above, it should be placed under observation normal operation of the tooth. If you notice abnormal performance, it may take additional measures as a different orientation or position of device.

b) Over the frequency range from 150 kHz to 80 MHz should be less than 3 V / m.

Manufacturer's guide and declaration - Electromagnetic emissions

The W1090 scale is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer/user of the W1090 scale can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the W1090 scale as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 mHz d =1,2√P	80 MHz to 800 MHz d =1,2√P	800 kHz to 2,5 GHz d =2,3√P
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

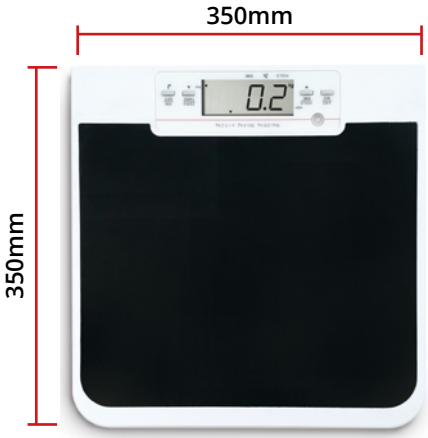
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

TECHNICAL SPECIFICATIONS

MANUFACTURER	**Wunder Sa.Bi. Srl**
MODEL	**W1090 BT**
CODE	00071BT
CAPACITY : DIVISION	200kg : 200g
ACCURACY	200g
UNITS OF MEASURE	kg
FUNCTION KEYS	ON/OFF, ZERO/TARE, HOLD/BMI
STABILISATION TIME	1-2 seconds
OPERATING TEMPERATURE AND HUMIDITY	5°C - 35°C | 15% - 85% RH
POWER SUPPLY	4x 1.5V AA size alkaline batterie
	Adaptor type: 12V
INDICATOR DISPLAY	1" LCD display with 5 active digits
DIMENSIONS	(w)350 x (L) 355 x (H)60 mm
WEIGHT	Net: 3,0kg | Gross: 3,3kg



PANEL AND KEY FUNCTION

Symbol	Description
○	Stable Indicator
▬	Minor Weight Value
→0←	Zero
	BT wireless transmission (Optional)

Key	Function description
ON / OFF	To power **ON** and **OFF** the scale. When the scale is powered ON for the 1st time, the weighing direction will be on patient's side.
ZERO / TARE	Press to tare weight. Wireless trasmission function long press TARE button to enter in the test mode as following. A. OFF → bl uEt → End
HOLD / BMI	Press this key to lock the displayed weight. It is designed for locking the weight when the person is standing on the scale. To disable the Hold function, press the HOLD button and the display will return to zero.

FUNCTIONS

HOLD FUNCTION

1. Press **HOLD** key to enter into weighing lock mode.

2. The arrow pointing at the HOLD symbol will start to flash and the display will show: HoLd

3. The person now stand on the scale can be weighed.
The scale will take the average weight and lock it on the display

4. After the weight value has been locked on the display, press **HOLD** key to disable the lock function (the arrow pointing at the HOLD symbol will disappear and return to normal mode.)

NOTE:

A. When the HOLD function has been activated, all other keys and functions can not be operated.

B. *After a weight value is locked and the person is still on the scale*
Press **HOLD** key to disable the HOLD function or press **TARE** key to disable the HOLD function and perform TARE function.

C. Before a weight value is locked, pressing **TARE** key will only perform **TARE** function, but the HOLD function is not disabling.

BMI FUNCTION

1. Switch ON the scale and have the person to be weighed stand on the platform.

2. Press and hold **BMI** key for three seconds to enter into BMI mode.

3. Display shows last inputted height and an arrow starts flashing. Press **TARE** key

4. Use **BMI** key to increase the value and **TARE** key to decrease the value.

5. Once the height is set, press **BMI** key

6. The scale will register the weight of the person and calculate BMI according to height set up before.

7. Display shows BMI, weight and height of the person in rotation mode

8. Press **BMI** key to disable BMI function.

BMI Categories

Classification of weight for adults over 18 years on the basis of Body Mass Index according to WHO,

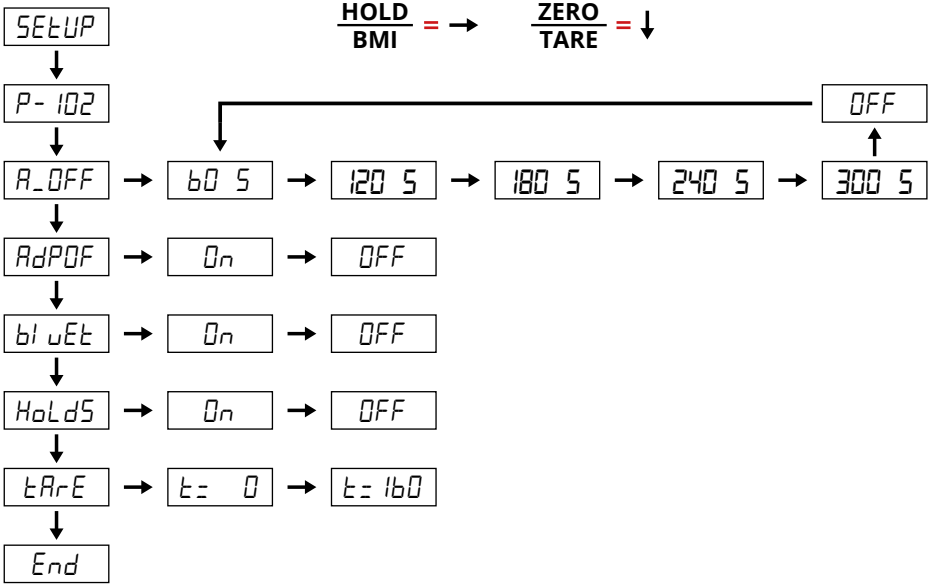
2000 EK IV and WHO 2004.

WHO (World Health Organisation)

Category	BMI (kg/m²)	Risk of diseases
Underweight	< 18.5	Low
Normal weight	18.5 - 24.9	Average
Preobesity	25 - 29.9	Slightly increased
I degree of obesity	30 - 34.9	Increased
II degree of obesity	35 - 39.9	High
III degree of obesity	≥ 40	Very High

INTERNAL SETTINGS

Long press **TARE/ZERO** key for 6 seconds, to enter into setting mode



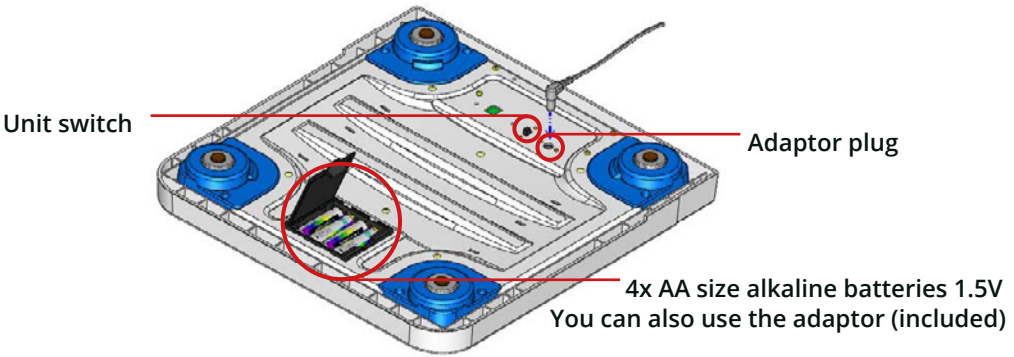
POWER SUPPLY

1. W1090 Scale uses **4x AA size alkaline batteries (optional)**

2. Low battery indication will be displayed on the LCD when the battery power is insufficient to perform the weighing

3. When LobAt is displayed, **please change batteries**.

4. **ATTENTION!** Follow the instructions below to proper install batteries



ERROR MESSAGES AND SOLUTIONS

ERROR	REASON	SOLUTION
Lo	**Low Battery:** Means that the charge of the battery is too low to use	Please replace a new battery or plug the AC adaptor
Err	**Overload:** The total load exceeds the maximum capacity	Please reduce the load weight and try again
Err.H	**Counting error (too high):** Indicates that the signal from the load cell/s is too high	This error is normally caused by a serious fault on the scale such as a faulty load cell or wiring. Please contact the local service representative.
Err.L	**Counting error (too low):** Indicates that the signal from the load cell/s is too low	This error is normally caused by a serious fault on the scale such as a faulty load cell or wiring. Please contact the local service representative.
00000	**Zero count over calibration zero range +10%** while power ON	Please re-calibrate the scale
00000	**Zero count under calibration zero range -10%** while power ON	Please re-calibrate the scale
Err.P	**EEPROM Error:** Indicates that there is a fault with the scales software	This error is normally caused by a serious fault on the scale such as a faulty load cell or wiring. Please contact the local service representative.

Self-checking Tips:

Some functional defects can be identified and maintained by users as listed below:

Power-ON failure

1. Check if the main power adaptor has not plugged onto the scale properly

2. Check if the battery power is running low - Replace with new batteries

Indicator showing "0000" ZERO SPAN out of range

1. Incorrect weighing result - Avoid damages by external environment force such as free-drop to the ground, collision by external objects, etc.
2. Re-calibration procedure required to correct the setting of weighing accuracy.
3. Interference due to RF disturbance, ground vibration...
4. Unstable platform feet adjustments according to bubble level indication
5. Incorrect position or other external objects within weighing area
6. The scale is not in a solid and firm ground area, such as carpet floor or lawn.

Connection failure for data transmission to PC or printer

1. Wrong connection wires or faulty wires for transmission between the digital indicator and load cells.
2. Wrong indicator model
3. Wrong internal wiring or wire broken

CONFORMITY

WUNDER MODEL W1090 ELECTRONIC SCALE SERIAL N°.....
We certify that this instrument has been inspected and has successfully passed the functional test. It complies with the following standards and directives:
EN 45501 / EN60601-1-2 / EN60601-1 **93/42/EEC – Medical Devices Directive**

IDENTIFICATION LABELS

In the metrological label applied it's displayed the year of manufactur ex. 17=2017 and so..

SCRAPPING AND WASTE DISPOSAL

If set aside for a long period, protect those parts which could be damaged due to dust build-up

Scrapping

When you decide to no longer use this item, we recommend making it unusable and making those parts which could be sources of danger harmless

Waste disposal  **EU 2012/19/UE**

This product complies with the **Directive 2012/19/UE**. The symbol of the crossed-out waste bin on the appliance indicates that the product, needing to be treated separately from household waste, at the end of its useful life must be completed in a separate collection facility for electric and electronic appliances or returned to the dealer upon purchase of a new equivalent appliance. The user is responsible for bringing the appliance to an appropriate collection structure at the end of its life. Appropriate separate collection and sending the appliance for recycling, treatment and environmentally compatible waste disposal contributes to avoid possible negative effects on the environment and health and favours the recycling of the materials the product is made of.

For more detailed information regarding available collection systems, contact your local waste disposal service or the shop where the product was purchased. As consumers, you are obliged by law to return used or dead batteries. You may deposit old batteries at public collection spots in your town or else with any battery dealer who has placed specific collectors for this purpose. Even when scrapping electric and electronic appliances, they must be removed and deposited in specific collectors.

NOTE: The following symbols indicate the presence of harmful substances

Pb Pb = batteries containing Lead

Cd Cd = batteries containing Cadmium

Hg Hg = Batteries containing Mercury

WARRANTY

This certificate must be kept until the warranty has expired. It must be presented together with the invoice, tax receipt or delivery note providing the name of the dealer and date of purchase whenever a technical intervention is required. Otherwise the user will lose any warranty rights. The warranty takes effect from the date of purchase and is valid during the entire period foreseen by the current catalogue/pricelist. By warranty we mean the replacement or repair free of charge of parts making up the appliance which, at the discretion of the manufacturer, are deemed faulty from the origin; Wunder therefore has the faculty of repairing or replacing the item.

The warranty does not cover:

- Shipping faults, damage caused by falls, carelessness or tampering
- Damage caused by incapability of using the appliance and of its improper use
- Damage caused by an insufficient or inadequate electrical system or alterations resulting from environmental, climatic or other types of conditions
- Damage due to incorrect installation of the appliance and repairs carried out by unauthorised personnel
- Interventions at home for convenience controls or presumed defects
- Routine maintenance and that which can be considered normal wear from use
- Consumables such as: power supplies, batteries, keyboards, plates, wheels, heads, rolls, load cells faulty due to blows or overloads. Service can also be refused when the appliance has been changed or transformed in any way. In case of interventions at one's home, the customer must pay the fixed fee; if however the appliance is repaired at an authorised Wunder Service Centre, expenses and relative travel risk are borne by the user.

Wunder will not be held liable for damage of any nature caused directly or indirectly to persons, animals or objects resulting from failure to comply with all the instructions indicated in this manual or anyway resulting from improper use.
The Court of Bergamo has jurisdiction in case of any dispute.