charder®

MS 6111

USER MANUAL

Please keep the instruction manual at hand all the time for future reference.

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PREFACE

Thank you for choosing CHARDER MEDICAL product. All features of this product were designed to state of the art and are optimized for simple and straightforward use. If you have any queries or experience any problems not addressed in the operating instructions, please contact your CHARDER MEDICAL service partner, or visit us on the Internet at www.chardermedical.com

GENERAL INFORMATION

We strongly recommend you use the scales on flat and hard surface. Any soft surface, like carpet will cause inaccuracy.

SAFETY INSTRUCTION

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:

- 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.
- Expected Service Life: 5 years

If you have any problem, contact your local CHARDER MEDICAL service partner.

ENVIROMENTAL

- 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℃ to +35℃; 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.

MAINTENANCE

- The scale does not require any routine maintenance. However, we recommend checking the scale's accuracy at regular intervals. The regularity of these checks is dependent on the level of use and the state of the scale. If any inaccuracies occur, please contact your local dealer or CHARDER MEDICAL service partner

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 `TARE` before use, if it does not then please press the TARE 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.

WARRANTY-LIABILITY

- If a fault or defect is present on receipt of the unit which is within CHARDER MEDICAL's scope of responsibility, CHARDER shall have the right to either repair the fault or supply a replacement unit. Replaced parts shall be the property of CHARDER. Should the fault repairs or replacement delivery not be successful, the statutory provisions shall be valid. The period of warranty shall be two years, beginning on the date of purchase. Please retain your receipt as proof of purchase. Should your scale require servicing, please contact your dealer or CHARDER MEDICAL Customer Service.
- No responsibility shall be accepted for damage caused through any of the following reasons: Unsuitable or improper storage or use, incorrect installation or commissioning by the owner or third parties, natural wear, changes or modifications, incorrect or negligent handling , overuse, chemical, electrochemical or electrical interference or humidity, unless this is attributable to negligence on the part of CHARDER MEDICAL.
- If operating, climatic or any other influences lead to a major change in conditions or material quality, the treaty for perfect unit functioning shall be rendered null and void. If CHARDER provides and individual warranty, this

means that the unit supplied will be free of faults for the length of the warranty period.

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

EXPLANATION OF THE GRAPHIC SYMBOLS

SN-T13000001

Designation of the serial number of every device, applied at the device.

(Number as an example)

“Please note the accompanying documents“
or “Observe operating instructions”

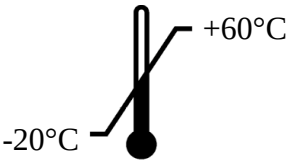
Identification of manufacturer of medical product including address

Charder Electronic Co., Ltd.
No.103, Guozhong Rd., Dali Dist.,
Taichung City 412, Taiwan (R.O.C.)

“Electro-medical appliance“
with attachment for type B

Dispose of old appliances separately from your household waste!!!
Instead, take them to communal collection points.

Carefully read this operation manual before setup and commissioning, even if you are already familiar with Charder scales.



Transport and storage temperature limit indicating the upper and the lower limit
(Transport and storage temperature on packaging)

EMC guidance and manufacturer's declaration

Guidance and manufacturer’s declaration-electromagnetic emissions

The MEDICAL SCALE MS6111 is intended for use in the electromagnetic environment specified below.
The customer or the user of the MEDICAL SCALE MS6111 should assure that it is used in such an environment.

Emission test	**Compliance**	**Electromagnetic environment-guidance**
RF emissions CISPR 11	Group 1	The MEDICAL SCALE MS6111 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The MEDICAL SCALE MS6111 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 emissions IEC 61000-3-2	Class A	
Voltage fluctuations /flicker emissions IEC 61000-3-3	Compliance	

Guidance and manufacturer's declaration-electromagnetic immunity

The MEDICAL SCALE MS6111 is intended for use in the electromagnetic environment specified below.
The customer or the user of the MEDICAL SCALE MS6111 should assure that it is used in such an environment.

Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment-guidance**

Electrostatic discharge(ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	± 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 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 interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT(>95% dip in UT) for 0,5 cycle 40% UT(60% dip in UT) for 5 cycles 70% UT(30% dip in UT) for 25 cycles <5% UT(>95% dip in UT) for 5 s	<5% UT(>95% dip in UT) for 0,5 cycle 40% UT(60% dip in UT) for 5 cycles 70% UT(30% dip in UT) for 25 cycles <5% UT(>95% dip in UT) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the MEDICAL SCALE MS6111 requires continued operation during power mains interruptions, it is recommended that the MEDICAL SCALE MS6111 be powered from an uninterruptible power supply or a battery.
Power frequency(50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	The MEDICAL SCALE MS6111 power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE UT is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration-electromagnetic immunity			
The MEDICAL SCALE MS6111 is intended for use in the electromagnetic environment specified below. The customer or the user of the MEDICAL SCALE MS6111 should assure that is used in such and environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment-guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 KHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the MEDICAL SCALE MS6111 including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance:** $d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P}$ 80MHz to 800 MHz $d = 2,3 \sqrt{P}$ 800MHz to 2,5 GHz Where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in metres (m).
Radiated RF IEC 61000-4-3	3 V/m 80MHz to 2,5 GHz	3 V/m	Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a], should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked

			with the following symbol: 

NOTE1 At 80 MHz and 800 MHz, 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.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the MEDICAL SCALE MS6111 is used exceeds the applicable RF compliance level above, the MEDICAL SCALE MS6111 should be observed to verify normal operation. If abnormal performance is observed, additional measures my be necessary, such as re-orienting or relocating the MEDICAL SCALE MS6111.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be les than 3 V/m.

Recommended separation distance between portable and mobile RF communications equipment and the MEDICAL SCALE

The MEDICAL SCALE MS6111 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the MEDICAL SCALE MS6111 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the MEDICAL SCALE MS6111 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 $d = 1{,}2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1{,}2\sqrt{P}$	**800 MHz to 2,5 GHz** $d = 2{,}3\sqrt{P}$

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

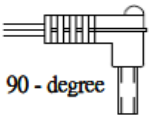
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter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

SPECIFICATIONS

MODEL#	MS 6111	
Capacity **Division**	0~20kg x 0.01kg 20~250kg x 0.1kg	0~44lb x 0.02lb 44~550lb x 0.2lb
Accuracy	0~20kg ±20g 20~250kg ±200g	0~44lb ±0.04lb 44~550lb ±0.4lb
Units of Measure	kg ; lb(switch is at bottom of scale)	
Function keys	ON/OFF, TARE, HOLD/BMI	
Stabilization Time	1-2 seconds	
Operating Temp. and humidity	5℃ - 35℃ 15%-85% RH	
Transport and storage temperature and humidity	-20℃ … +60℃ 10%-95% RH	
Power supply	Four 1.5V AA size alkaline batteries	
	Adaptor type: 9V ~ 12V	
Indicator display	1.0” LCD display with 5 active digits	
Dimensions	348.5 x 355mm	

POWER ADAPTOR STANDARDS

AMP VOLTAGE	DRAWING NO.:	CE APPROVED TYPE NO. / MODEL NO.:	TYPE	
9V DC 100mA	AD-0484	D35W090100-23/1	US	 90 - degree
9V DC 100mA	AD-038A	D41W1090100-13/1	EU	
9V DC 100mA	AD-037A	D41WK090100-23/2	UK	
9V 200mA	AD-8082(AD-0544)	UE05WCP-090020SPC	US	
9V 200mA	AD-8082(AD-0544)	UE05WCP-090020SPC	EU	
9V 200mA	AD-8082(AD-0544)	UE05WCP-090020SPC	UK	
9V 200mA	AD-8082A(AD-0544A)	UE05WCP-090020SPC	AU	
15V 300mA	AD-016D	D41W150300-13/1	US	
15V 300mA	AD-0420	D41WI150300-13/1	EU	
15V 300mA	AD-0370	D41WK150300-23/2	UK	
15V 300mA	AD-0482	D41WA150300-13/2	AU	
15V300mA	AD-8079D(AD-0536D)	UE05WCP-150030SPC	US	
15V300mA	AD-8079A(AD-0536A)	UE05WCP-150030SPC	EU	
15V300mA	AD-8079B(AD-0536B)	UE05WCP-150030SPC	UK	
15V300mA	AD-8079C(AD-0536C)	UE05WCP-150030SPC	AU	
12V 1A	AD-8084B	UE24WV-120100SPA	EU	
12V 1A	AD-8084	UE24WB-120100SPA	UK	
12V 1A	AD-8095	UE24WOP1-120100SPA	US	
12V 1A	AD-8095	UE24WOP1-120100SPA	EU	
12V 1A	AD-8095	UE24WOP1-120100SPA	UK	
12V 1A	AD-8095	UE24WOP1-120100SPA	AU	
12V 2A	AD-8058(AD-0521)	UE24WU-120200SPA	US	
12V 2A	AD-8057(AD-0520)	UE24WV-120200SPA	EU	
12V 2A	AD-8056(AD-0519)	UE24WB-120200SPA	UK	
12V 2A	AD-8074(AD-0534)	UE24W4-120200SPAS	AU	
12V 1A	AD-8096	UE24WOP1-120100SPA	US	 180 - degree
12V 1A	AD-8096	UE24WOP1-120100SPA	EU	
12V 1A	AD-8096	UE24WOP1-120100SPA	UK	
12V 1A	AD-8096	UE24WOP1-120100SPA	AU	
12A 1.5A	AD-8025A(AD-0527)	GFP181DA-120150B-2	US	
12A 1.5A	AD-8025D(AD-0529)	GFP181DA-120150B-2	UK	

POWER SUPPLY & LOW BATTERY

1. The MS 6111 scale uses 4 x AA size alkaline batteries.
2. Low battery indication will display on LCD display when battery power is insufficient to perform the weighing.

When “  ” is displayed, please change batteries.

Please refer to “INSTALLING THE BATTERY” .

PANEL AND LCD DISPLAY

LCD DISPLAY

1. **: Stable symbol**
2. **: Minor weight value**
3. **: Zero**

KEY FUNCTION DESCRIPTION:

1. **:** This ON/OFF button with an red arrow sign to the side is a functional setting confirmation button when BMI mode is enabled (Refer to section under INSTRUCTION OF HOW TO USE BMI FUNCTION in Page 18). After the height value is entered, press this ON/OFF button with the red arrow sign to confirm the height value and perform BMI value function.
2. The other opposite direction ON/OFF button is the power on & off key under any mode setting to switch off the scale.

3. **TARE:**

Press to tare weight.

4. HOLD/BMI:

Press this key to lock the weight value before or while weighing & To disable the weight lock (Hold) function, press HOLD key again or remove the weight (Tare weight also) from the platform; display will come to zero weighing

INSTRUCTION OF HOLD FUNCTION

1. Press HOLD key to enter into weighing lock mode.
2. The arrow pointing to hold mark will start to flicker and LCD will display “  ”.
3. To have person stand on the scale; the scale will take the average of fluctuating weight and lock the weight on the display.
4. After the weight value is locked, press HOLD key again or pick up the weight (Tare weight also) from the platform to disable the hold function. (The arrow of hold and locked value will disappear and the instrument returns to normal mode.)

NOTE:

A. When the weighing lock (Hold) function is activated, all other keys and functions can not operate.

B. After a weight value is locked, and weight 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, press TARE key will only perform tare function, but the hold function is not disabling.

INSTRUCTION OF USING BMI FUNCTION

Body Mass Index 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 Organization).

Category	BMI (kg/m^2)	Risk of diseases accompanying overweight
Underweight	< 18.5	low
Normal weight	18.5 – 24.9	average
Overweight	≥ 25.0	
Preobesity	25.0 – 29.9	slightly increased
I degree of obesity	30.0 – 34.9	increased
II degree of obesity	35.0 – 39.9	high
III degree of obesity	≥ 40	very high

INSTRUCTION OF HOW TO USE BMI FUCNTION

1. Switch on the scale and have the person who's going to be measured standing on the platform.
2. Long press 

HOLD/BMI key three seconds to enable BMI mode.
3. The LCD display will show last input height and flashing. 

4. Press 

and 

key to increase and decrease the height.
5. After the height is set up, press 

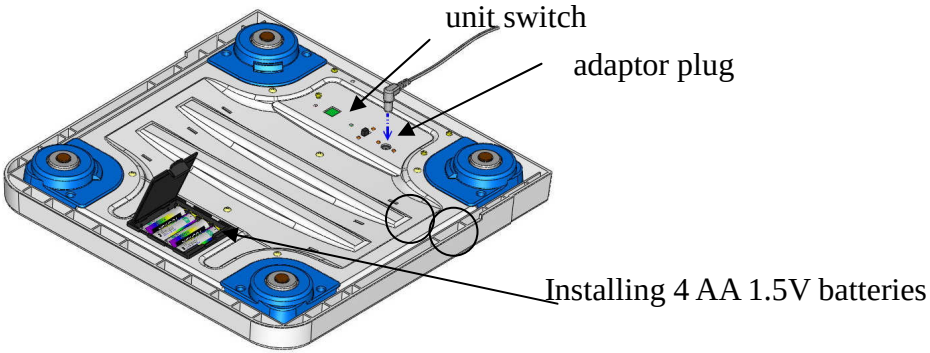
button that has an arrow mark beside to confirm the height value.

6. The scale will take the weight of person and calculate BMI value according to height set up during process.
7. LCD will display BMI, weight and height in rotation.
8. Press HOLD BMI ▼ to disable BMI function and return to normal mode or press ON OFF to shut down the scale.

POWER SUPPLY

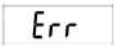
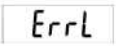
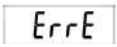
MS 6111 uses 4 x AA size alkaline batteries (*not included*) for operation. If you want scale to be operated by battery, please install batteries by referring to instruction below.

INSTALLING THE BATTERY



You can also use the adaptor (standard) as power supply.

ERROR MESSAGE

ERROR MESSAGE	REASON	ACTION
	Low Battery: This warning shows that the voltage of battery is too low to use	Please replace a new battery or plug the AC adaptor for operation
	1. Overload: The total load exceeds the maximum capacity of scale 2. Counting error (too high): Indicates that the signal from the load cell/s is too high	1. Please reduce the loading and try again. 2. This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.
	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 scales such as a faulty load cell or wiring. Please contact the local service representative.
	EEPROM Error: Indicates that there is a fault with the scales software	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.
	ADC not working properly	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.

TROUBLESHOOTING

Troubleshooting for defective modes:

Original purchaser can enjoy the benefits under the effective Warranty against functional defects in material and workmanship subject to the terms and conditions listed in the yearly Warranty Program & Return Policy.

Our warranty service program includes the following:

1. Technician repair service under warranty or at a service maintenance charge depending on the workmanship for the defective functionality or cause of damage covered by the warranty.
2. Parts replacement from the manufacturing factory under the warranty or at a certain cost for the replaced parts plus the workmanship charge if not covered under the warranty.

Before you contact our Authorized Dealer in your country for technician repair service, please read through the following section carefully:

Self-checking Tips:

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

1. Power-on failure

- Check if the main power adaptor has not plugged onto the scale

properly

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

2. Indicator showing “0000” ZERO SPAN out of range

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

3. Connection failure for data transmission to PC or printer

- Wrong connection wires or faulty wires for transmission between the digital indicator & load cells.
- Wrong indicator models
- Wrong internal wiring or wire broken

In case of the following defective mode occurs, it is suggested to contact your nearest Authorized Dealer for further technician service & repair:

1. POWER switch-on failure :

- Push-button faulty
- Short circuit wires - Wire broken
- Safety fuse burnt out
- Wire connection problem

- Main power adaptor faulty – Parts Replacement

2. LCD display faulty

- Possible hardware defects include: Uneven brightness in the LCD display screen & texts color blurred, smeared rainbow screen, incorrect decimal display
- LCD PIN broken or short circuit
- PCB cooper foil broken & loosed welding
- Unable to save or read data – IC or transistor faulty, internal parts broken.
- LCD showing “ERRL” after switch on - Load cell damaged
- Overload may cause the weigh to malfunction.
- Software system crash
- Resonator faulty
- Load cells with faulty grinding standard.
- Key buttons failure - Front key panel damaged or disconnected

3. Buzzer malfunction

- Wrong welding of PVC wire
- Key buttons & control panel damaged or disconnected.

Manufacturer’s Declaration of Conformity

This product has been manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives:

CE 0434	93/42/EEC as amended by 2007/47/EC Medical Device Directive

Please see separate document showing on sticker of device for above CE marking.

Authorized EU Representative:

EC REP

Wellkang Ltd
Suite B, 29 Harley Street
LONDON, W1G 9QR, U.K.

Manufactured by:

Charder Electronic Co., Ltd.
No.103, Guozhong Rd., Dali Dist.,
Taichung City 412, Taiwan (R.O.C.)

FDA no.: D051882