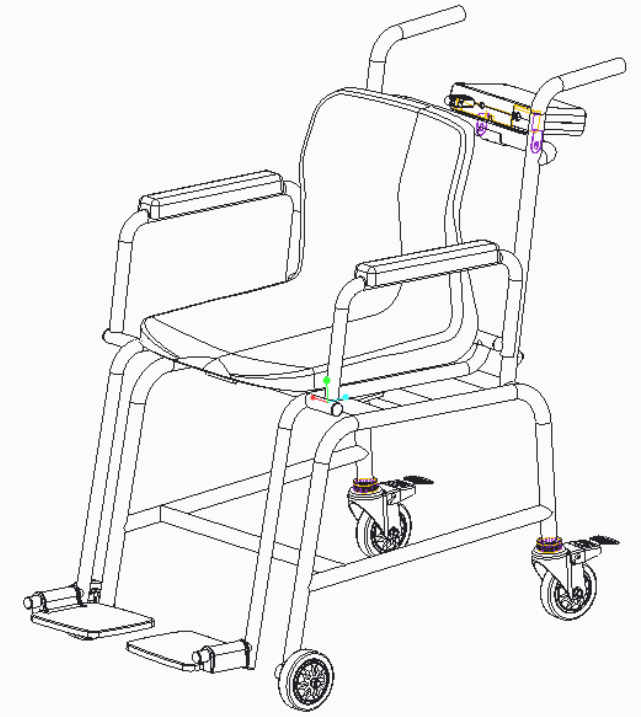
Chair Scale

USER MANUAL
MS5810/MS5811



Please keep the instruction manual at hand and follow instruction for use

CONTENTS

Explanation of Graphic Symbols on Label/Packaging

Text/Symbol	Meaning
	Caution, consult accompanying documents before use
	Separate collection for waste of electrical and electronic equipment, in accordance with Directive 2002/96/EC. Do not dispose of device with everyday waste
	Name and address of device manufacturer, and year/country of manufacture
	Carefully read user manual before installation and usage, and follow instructions for use.
	Medical electrical device, Type B applied part
	Medical electrical device, Type BF applied part
REF	Device catalogue number / model number
EC REP	Name and address of authorized representative in the European Union
MD	Device is a medical device. Text indicates device category type
LOT	Manufacturer's batch or lot number for device
SN	Device's serial number
UDI	Device's Unique Device Identifier
e	Verification Scale Interval. Value expressed in units of mass. Used to classification and verification of an instrument.
CE 2460	Device conforms to (EU) 2017/745 Regulation on Medical Devices. Fourdigit number is identifier for medical device Notified Body

CE M 20 0122	Device complies with EC directives (verified models only) **M**: Conformity label in compliance with Directive 2014/31/EU for non-automatic weighing instruments **20**: Year in which conformity verification was performed and the CE label was applied. (ex: 16=2016) **0122**: Identifier for metrology Notified Body
	Device is a Class III scale in compliance with Directive 2014/31/EU (verified models only)
	Name and address of entity importing device (if applicable)
	Name and address of entity responsible for translating Information For Use (if applicable)
CON.	Event counter confirming how many times device has been calibrated (if applicable)
	Device conforms to Taiwan National Communications Commission(NCC) approval
	Device conforms to U.S. Federal Communications Commission regulations
UK CA M 20 8506	Device complies with UK non-automatic weighing instruments regulations 2016 (verified models only) **M**: Conformity label in compliance with Non-automatic Weighing instruments Regulations 2016 **20**: Year in which conformity verification was performed and the UKCA label was applied. (ex: 20=2020) **8506**:Identifier for metrology approved body
	Device complies with all UK applicable product legislation
	Device's polarity of power.

"In case of differences, icon on device itself takes precedence"

Copyright Notice
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I. Safety Notes

A.General Information

Thank you for choosing this Charder Medical device. It is designed to be easy and straightforward to operate, but if you encounter any problems not addressed in this manual, please contact your local Charder service partner.

Before beginning operation of the device, please read this user manual carefully, and keep it in a safe place for reference. It contains important instructions regarding installation, proper usage, and maintenance.

Intended Purpose

This medical device is designed to be used in accordance with national regulations, to measure weight within specifications, for weight-related usage by professionals.

Clinical Benefit

Measurement results can be used by professionals to diagnose (and monitor) weight-related issues.

Intended medical indications/contraindications

Measurement: patient's body weight. No known contraindications to measurement of body weight.

Intended patient profile

(a) Age: no restrictions
(b) Weight: no restrictions within device weight capacity
(c) Patient Conditions: require measurement of body weight.
Unable to stand independently without support.

Intended user profile

(a) At least 20 years old
(b) Minimum knowledge:
- To be able to read at a high-school level and understand Arabic numerals (e.g. 1, 2, 3, 4...)
- Basic hygiene knowledge
- Trained in device's operation
- Read the instruction manual

(c) Language
- Able to read the language of instruction manual and on-screen instructions

(d) Qualifications
- No special certifications or qualifications required

Residualrisk evaluation

(a) All foreseeable risks have been evaluated and considered acceptable. Generally speaking, the most likely risk caused by incorrect usage of the device is less accurate measurement (or inability to use device to acquire measurement), which does not pose imminent physical risk to patient or user.

(b) Benefit-risk ratio is considered acceptable. Chair scales are an important option for measuring patients. Usage of device is unlikely to result in harm to user or patient.

General Handling

- Ensure all parts are properly locked and tightened before operating the device.
- Measurement accuracy requires the subject's feet, back, and head to be straightly aligned. Please note that height can vary throughout the day
- **CAUTION**: Do not use next to equipment that may cause electromagnetic or other types of interference.

Safety Instructions

Before putting device into use, please read this user manual carefully. It contains important instructions for installation, usage, and maintenance of device.

The manufacturer shall not be liable for damages caused by failure to heed the following instructions:

- The device has an expected service life of 5 years when correctly handled, serviced, and periodically inspected in accordance with manufacturer's instructions.
- Improper installation will render the warranty null and void.
- Observe permissible ambient temperatures for use

Cleaning

- Device surface should be cleaned using alcohol-based wipes.

Maintenance

- Please contact your local Charder distributor for regular maintenance and calibration, regular checking of accuracy is recommended; frequency to be determined by level of use and state of device.

Warranty / Liability

- The period of warranty shall be eighteen(18) months, beginning on the date of purchase. Please retain your receipt as proof of purchase.
- 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 and tear, changes or modifications, incorrect or negligent handling, chemical, electrochemical, or electrical interference, unless damage is attributable to negligence on the part of Charder.
- This device does not contain any user-maintained parts. All maintenance, technicalinspections, and repairs should be conducted by an authorized Charder service partner, using original Charder accessories and spare parts. Charder is not liable for any damages arising from improper maintenance or usage. Dismantlement of the device will void the warranty.

Warning

Measurements for physically disabled persons.

- Physically disabled persons should not attempt to take measurements alone, but instead should have their caretakers assist them in using the device.
- Footrest can only be used when subject is sitting in chair. To avoid injury, subject should refrain from standing on footrest, as device may tip over if used incorrectly.

Warning

- The collapsible frame should be handled with caution. Keep fingers, hands, or other parts of the body clear when folding or unfolding frame, to avoid injury.

Incident Reporting

- Any serious incident that has occurred in relation to the device should be reported to the manufacturer, EU representative (if device is used in EU member state), and competent authority of user/subject's member state.

B. EMC GuidanceandManufacturer's Declaration

Guidance and manufacturer's declaration-electromagnetic emissions		
The product isintended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.		
Emission test	**Compliance**	**Electromagnetic environment-guidance**
RF emissions CISPR 11	Group 1	The product 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 A	The product is suitable for use in all establishments other than domestic and those directly connected to a low voltage power supply network which 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 product is intended for use in the electromagnetic environment specified below. The customer or the user of the product 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	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 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	± 2kV for power supply lines	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 line(s) to line(s) ± 2kV line(s) to earth	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	0% UT for 0,5 cycle 0% UT for 1 cycle 70% UT(30% dip in UT) for 25cycles 0% UT for 5 s	0% UT for 0,5 cycle 0% UT for 1 cycle 70% UT(30% dip in UT) for 25cycles 0% UT for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the product requires continued operation during power mains interruptions, it is recommended that the product be powered from anuninterruptible power supply or a battery.
Power frequency(50, 60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	The product power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospitalenvironment.
NOTE UT is the a.c. mains voltage prior to application of the testlevel.			

Guidance and manufacturer's declaration-electromagnetic immunity

Theproduct is intended for use in the electromagnetic environment specified below.

The customer or the user of the product should assure that is used in such and environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Conducte d RF IEC 61000-4-6	3 Vrms 150 KHz to 80 MHz 6 V in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	3 Vrms 150 KHz to 80 MHz 6 V in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	Portable and mobile RF communications equipment should be used no closer to any part of the product including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance:**
Radiated RF IEC 61000-4-3	3 V/m 80MHz to 2,7 GHz	3 V/m 80MHz to 2,7 GHz	$d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P}$ 80MHz to 800 MHz $d = 2,3 \sqrt{P}$ 800MHz to 2,7GHz 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). 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 rangeapplies.

NOTE2

Theseguidelinesmaynotapplyinallsituations.Electromagneticpropagationisaffectedb yabsorptionand reflection from structures, objects andpeople.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios,amateurradio,AMandFMradiobroadcastandTVbroadcastcannotbepredictedtheoreticallywi thaccuracy.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 product is used exceedstheapplicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the product.
.

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

Recommended separation distance between portable and mobile RF communications equipment and the product

The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the product can help preventelectromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product as recommended below, according to the maximumoutput 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 2,7 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.

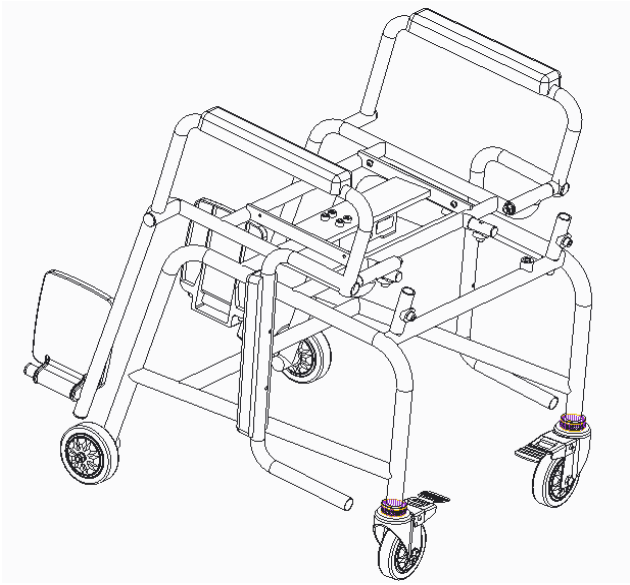
NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

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

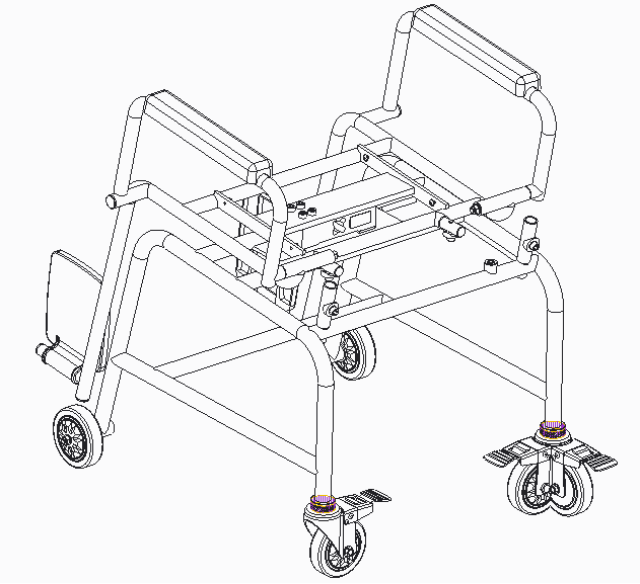
II. Installation

A. Assembling device

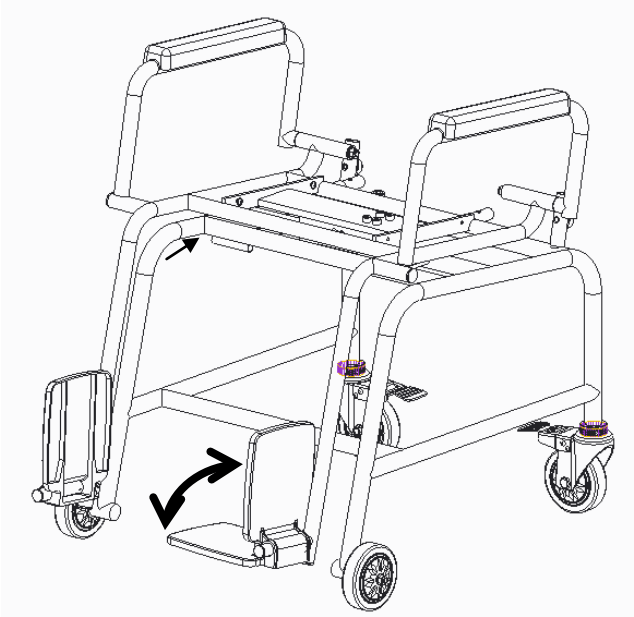
1. Rotate armrests to the top



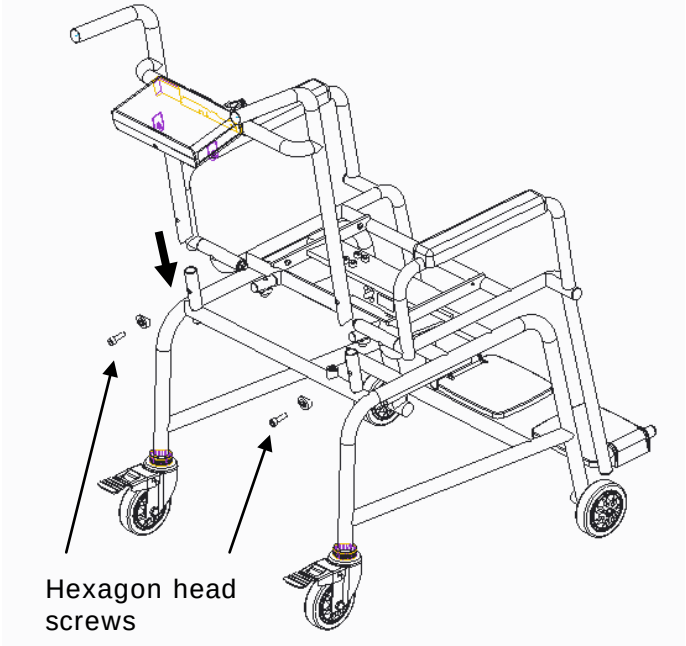
2. Confirm that castor wheels and brakes are functioning normally



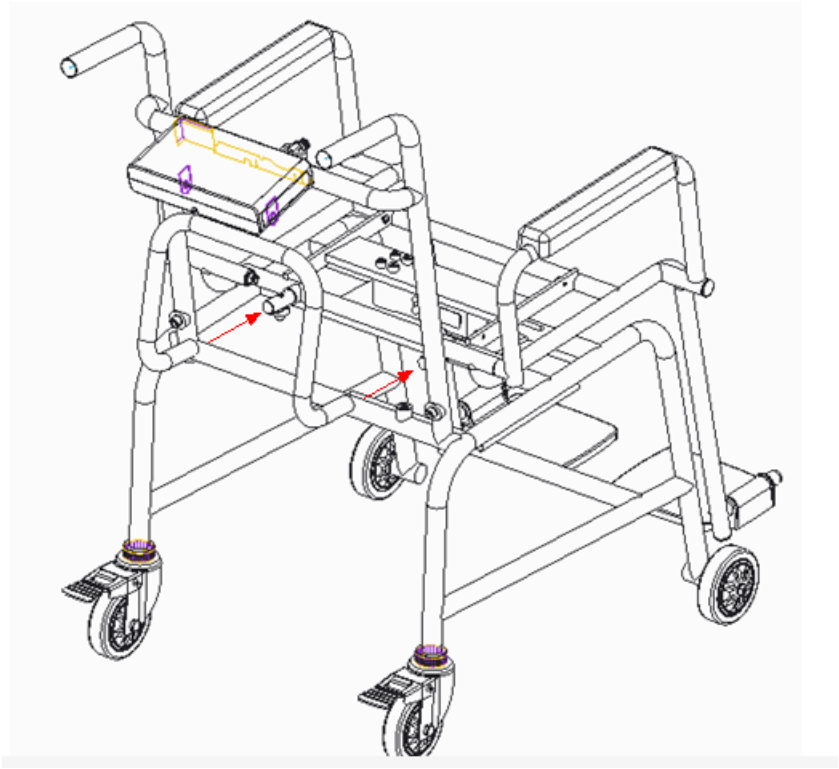
3. Rotate footrest down



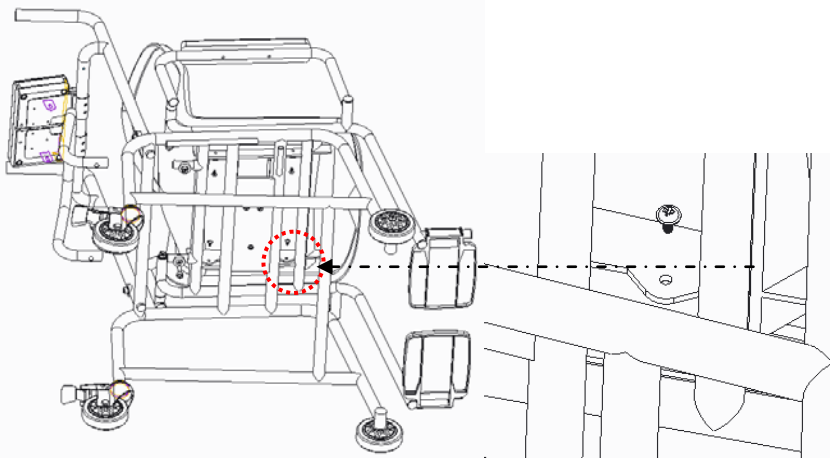
4. Insert handlebar and secure using two hexagon head screws

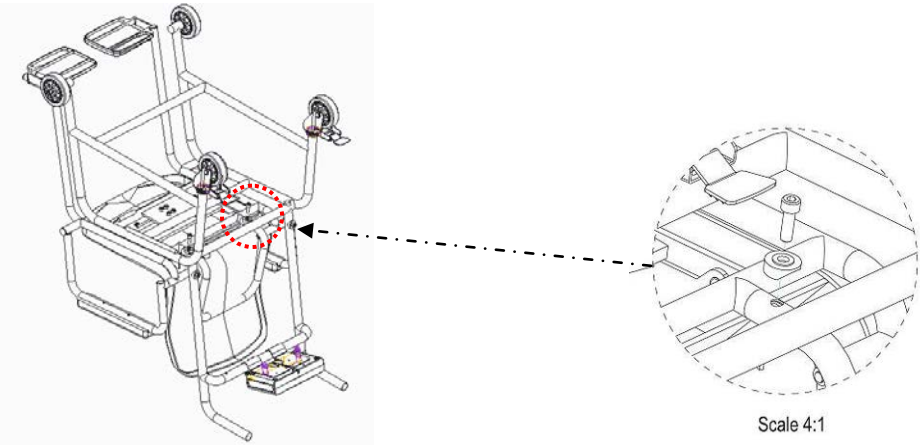


5. Insert back frame



6. Secure seat to frame using screws

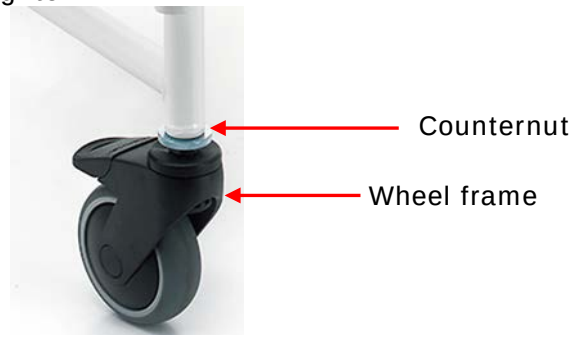




B. Adjusting wheel height

1. Place device on flat surface, apply wheel brakes

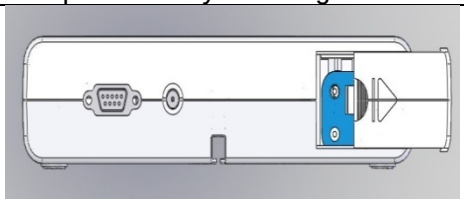
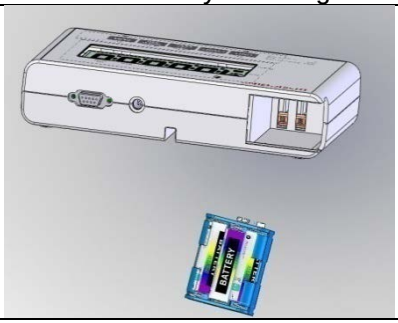
2. To tighten wheel castor, loosen counternut slightly. After loosening, turn wheel frame clockwise to tighten.

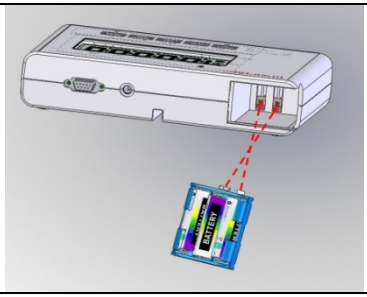


3. Adjust wheel height until air bubble on level indicator is level

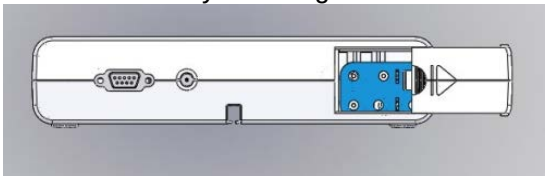
NOTE: Be careful not to lose wheels during adjustment

C. Inserting Batteries

1. Open battery housing cover	2. Remove battery housing
	

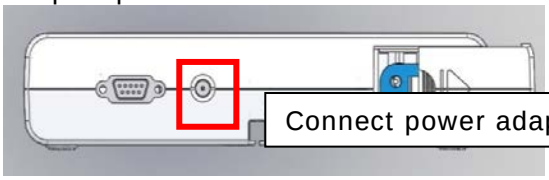
3. Insert batteries	4. When inserting battery housing, ensure contact with housing pins is correct.
	

5. Close battery housing cover.



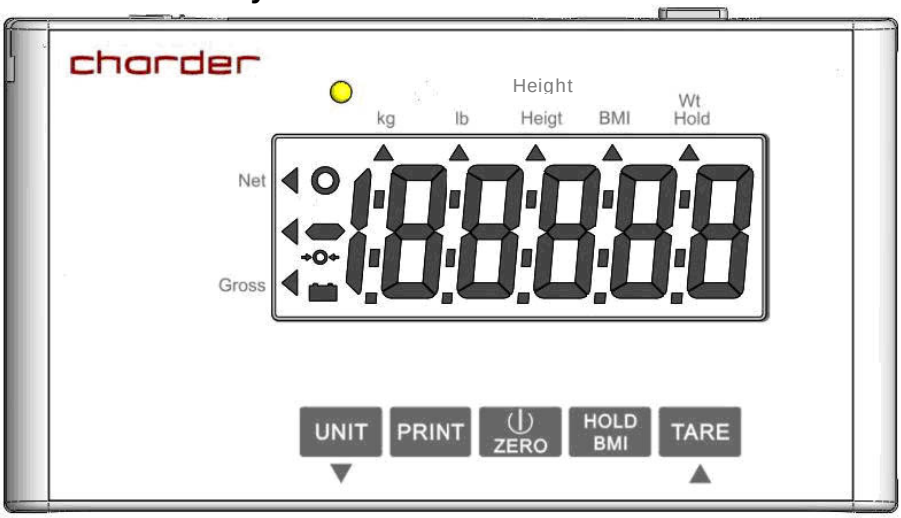
D. Using Adapter

1. Connect adapter to indicator before connecting to mains power supply
2. Disconnect adapter from mains power supply before unplugging adapter pin from indicator.



III. Indicator

A. Indicator and Key Functions

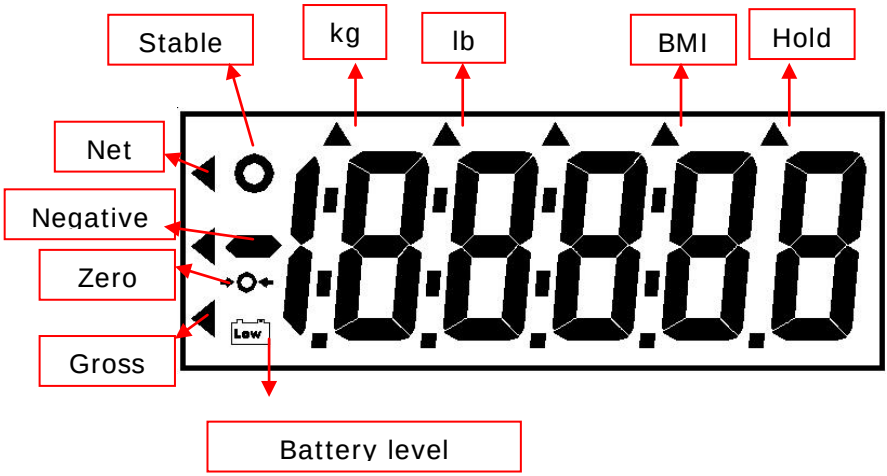


(lb only available on MS5810)

Key Function

UNIT	UNIT: Switch between units (MS5810 only).
PRINT	Print: When printer or PC is connected to the scale, press this key to print results.
→0←	On/Off/Zero: Turn device on and off. Press and hold for 3 seconds to turn device off. Reset display to 0.0 kg display.
HOLD BMI	HOLD/BMI: Determine stable weighing value - used when weight is unstable. Press and hold for 3 seconds to activate BMI (Body Mass Index) calculation mode.
TARE	TARE: Deduct weight from results. Press and hold for 3 seconds to enter settings.

B. Display layout



Hold:Hold function is activated
BMI: BMI function is activated
kg: Current unit is kg
lb: Current unit is lb
Stable: Weight is stable.
Net: Current result is net weight
Negative: Weight is under zero
Zero: Weight is at zero
Gross: Current result is gross weight.
Battery: Battery level. Replace battery when low.

IV. Using Device

A. Basic Operation

Switch on the device using ZERO key. The device will automatically perform self-calibration, displaying software version.

Once "0.00 kg" appears on indicator, device is ready for measurement.

Note: If "0.00 kg" does not display on indicator, press ZERO key to zero the device.

Guide subject to sit in chair. After the weight has stabilized, the "stable" symbol will appear on indicator.

Note: If subject's weight exceeds scale capacity (including tare), indicator will display "Err" prompt due to overload.

B. Hold

The hold function determines average weight, designed to be used if subject's weight will not stabilize (ex: an active child).

Note: if fluctuation is too severe, average weight determination will be difficult and hold may not function correctly

1. Switch on the device normally.
2. Press the HOLD BMI key. The triangle next to "HOLD" on the indicator will flash.
3. Guide subject to sit in chair.
4. After a few seconds, the average weight will be displayed on the indicator.
This weight will be locked - at this point, subject can leave device.
5. To release the locked weight, press the HOLD BMI key again to return to the device to normal mode.

Note: Hold function can be activated before or after subject stands on measurement platform. However, if subject finds it difficult to stand still, we recommend activating Hold after subject stands on platform.

C. BMI

1. Weigh subject normally. After "stable" symbol appears on indicator, press the HOLD BMI key to enter BMI mode.
2. Display will show last recorded height. Left-most digit will flash.
3. Enter height using numeral keys (ex: 170 cm). Input will automatically move to next digit. Press UNIT key to decrease, press TARE key to decrease. (press and hold to speed up)
4. After inputting height, press HOLD BMI to confirm.
5. Indicator will alternate between weight and BMI display.
6. Press HOLD BMI key to return to normal mode.

Category	BMI (kg/m^2)	Risk of obesity-related disease
Under	< 18.5	Low
Normal	18.5-24.9	Average
Over	24.9-29.9	Slightly Increased
Obese I	30.0-34.9	Increased
Obese II	35.0-39.9	High
Obese III	> 40	Very High

(World Health Organization adult BMI standards)

D. Tare

The tare function allows the user to deduct the weight of objects from the device's measurement result.

1. Place object that needs to be tared onto measurement platform.
2. Press TARE key after stable symbol appears on indicator. Display will indicate "0.00 kg".
3. Guide subject (plus tared object) to be weighed upon measurement platform. Conduct measurement.
4. To clear tare value, remove all objects from measurement platform, and press TARE key.

E. Print

If thermal printer is connected to indicator, results can be printed by pressing PRINT key.

V. Device Setup

When the device is switched on, press and hold the **[TARE]** key for about 3 seconds, until the display shows the "SET", followed by"AOFF" (first option in setting menu).

In device setup menu:

UNIT to toggle next menu option

ZERO toconfirm selection / enter submenu

Auto Power-Off: Instruct device to shut off automatically after a certain period of time.

Auto off options: 120 sec / 180 sec / 240 sec / 300 sec / off

Press UNIT to toggle between time options, and ZERO to confirm selection.

Adjust count range: This setting is normally used by qualified distributors, and does not need to be changed by users.

Press UNIT to toggle between 2d, 4d, 6d, and 8d. Press ZERO to confirm selection.

Buzzer/Beep:
When function is turned on, beeping noise will be made when: indicator is turned on, keys are pressed, and weight is stable.

Press UNIT to toggle between on/off, and ZERO key to confirm selection.

VI. Setup USB Connection to PC

For successful connection, PC hardware must be connected to device using manufacturer's designated RS232 cable.

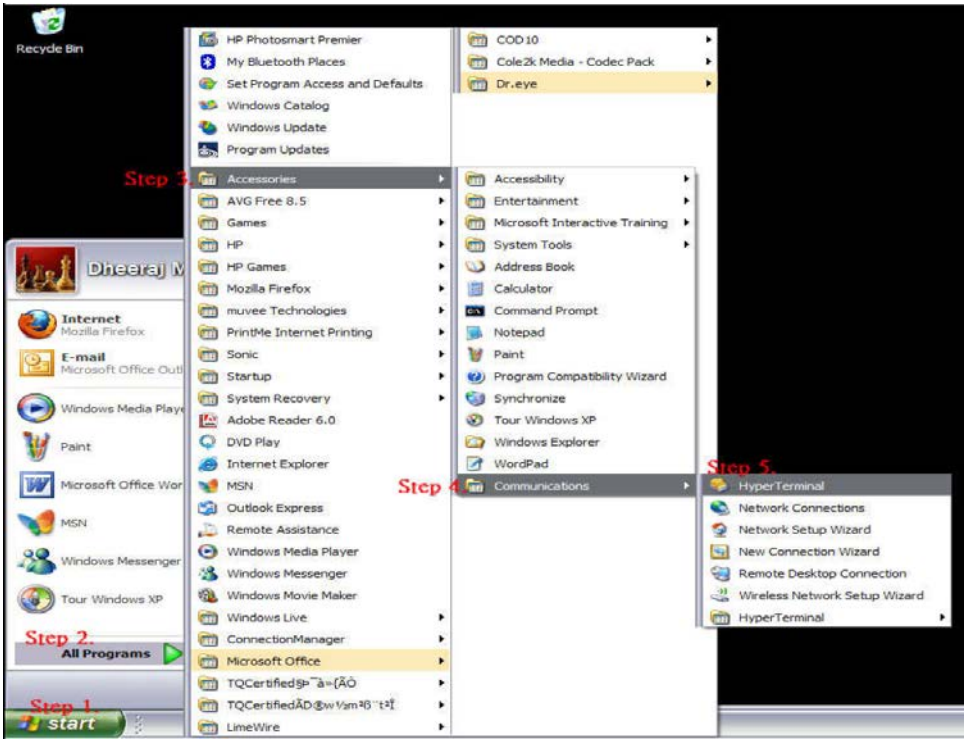
1. Hyper Terminal freeware software can be used to connect the device to a PC. The software program can be downloaded from the Charder website:

[LINK URL] https://www.chardermedical.com/download.htm

2. Connect RS232 cable to device indicator and PC. Follow installation instructions below:

Program Setup

1. After installation of Hyper Terminal, measurement results can be sent from indicator to PC.



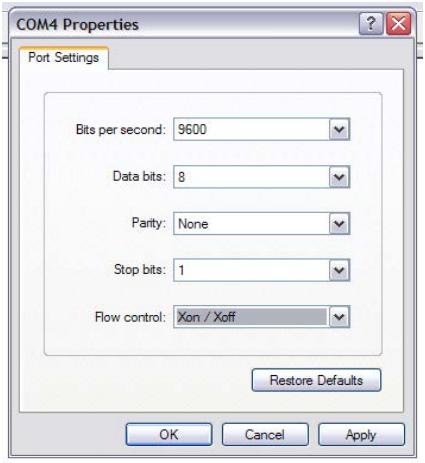
2. Name the connection and click **[OK]**.

3. Select COM (1, 2, 3, 4...) under "Connect using" dropdown menu, and press **[OK]**.

4. Set Port Settings as below:

- Baud rate: 9600 Bits per second
- Data bits: 8
- Parity check: None
- Stop bits: 1
- Handshake: RTS/CTS
- Data code: ASCII

Press **[OK]** to complete setup.



Send results from device to PC

After conducting weight/BMI measurement, press the **[PRINT]** button the indicator. Results will appear in Hyper Terminal software.

Saving & Printing Results

1. Press **[Save as]** to save measurement results as .csv file on PC. Default file name is same as user ID. (ex: 20190201.csv) To track changes and multiple measurements for the same subject, we recommend not changing the default file name.

VIII. Troubleshooting

Before contacting your local Charder distributor for repair service, we recommend considering the following troubleshooting procedures:

Self-inspection

1. Device will not power on

- If battery power is depleted, replace with new batteries
- If batteries are not used, check if the power adapter is plugged into the device properly. Check if power adapter is plugged into mains properly

2. Indicator showing "0000" ZERO SPAN out of range

- Interference due to factors such as RF disturbance or ground vibration. Relocate device to location without interference and try again
- Unstable platform feet - adjust wheel level according to bubble level indication and try again
- External objects interfering with measurement platform. Clear platform of objects and try again
- Device may not function properly on soft surfaces such as carpets or lawns. Relocate device to location with solid, stable floor
- If the steps above cannot resolve the problem, re-calibration may be required to correct weighing accuracy

3. Connection failure for data transmission to PC or printer

- Ensure wires are connected correctly between indicator and PC or printer
- Ensure printer is supplied with power. Ensure PC software is set up properly as indicated in this manual

Distributor support required

If the following errors occur, we recommend contacting your local Charder distributor for repair or replacement services:

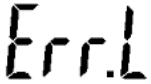
1. Device will not power on

- Faulty on/off key
- Broken or damaged wires causing short circuit or faulty connection
- Safety fuse burnout
- Faulty Adapter

2. Indicator damage

- Possible hardware defects include: uneven brightness in LCD screen, blurred text, smeared rainbow screen, incorrect decimal display
- Unable to save or read data
- Indicator shows "ERRL" after device is switched on
- Keys not responding
- Buzzer malfunction

Error Messages

Error Message	Reason	Action
	**Low battery warning** Voltage of battery is too low to operate device	Replace batteries, or plug in adapter
	**Overload** Total load exceeds device's maximum capacity	Reduce weight on measurement platform and try again
	**Program Error** Error detected upon device startup	If error repeatedly occurs after turning device off and on again, please contact distributor
	**Counting Error (too low)** Signal from loadcells too low	Error normally caused by faulty loadcell or wiring. Please contact distributor
	Zero count over calibration zero range +10% while power on	Re-calibration required. Please contact distributor
	Zero count under calibration zero range -10% while power on	Re-calibration required. Please contact distributor
	**Program Error** Fault with device software	Error normally caused by faulty loadcell or wiring. Please contact distributor

IX. Product Specifications

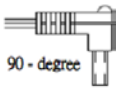
A. Device Information

Model		MS5810	MS5811
Display		DP3400	
Weight Measurement	Capacity	200kg x 100 g	0-100 kg x 100 g 100-150 kg x 200 g
	Accuracy	±2e	±1.5e
	OIML	N/A	Class III
	Units	kg/lb	kg
	LCD Screen	1.2-inch LCD screen (5 1/2 digits)	
Dimensions	Overall	630(W) x 920(D) x 630(H) mm	
	Seat	Height: 560mm Width: 420 mm	
	Armrest	Height: 720 mm	
Device Weight		18 kg	
Key Functions		On/Off/Zero, Hold/BMI, Unit (active on MS5810 only), Print, Tare	
Data Transmission		RS232 **NOTE**: Device should be connected to network by qualified distributors only	
Power Supply		6 AA batteries /Power adapter	
Operation Environment		0℃~+40℃ 15% / 85% RH 700 hPa ~1060 hPa	
Standard Accessories		User manual x1, Power Adapter x1	
Optional Accessories		Thermal Printer	

B. Power Adapter Standards

Warning

The device is only compatible with the power adapters listed below.

AMP VOLTAGE	DRAWING NO.	CE APPROVED TYPE NO. / MODEL NO.	TYPE	Adapter plug
12V 1A	CD-AD-00044	UES12LCP-120100SPA	US	
	CD-AD-00044	UES12LCP-120100SPA	EU	
	CD-AD-00044	UES12LCP-120100SPA	UK	
	CD-AD-00044	UES12LCP-120100SPA	AU	

Notes

X. Declaration of Conformity

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

CE 2460	(EU) 2017/745 Regulation on Medical Devices
CE M year	2014/31/EU Non-automatic Weighing Instruments Directive (OIML models only)

RoHS Directive 2011/65/EU and Delegated Directive (EU) 2015/863

Radio Equipment Directive 2014/53/EU
(applicable if wireless module is used)

Part 15 of the Federal Communications Statement Rules
This device may not cause harmful interference.
This device must accept any interference received, including interference that may cause undesired operation.

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

Authorized EU Representative:

EC REP **Obelis s.a.**
Bd Général Wahis, 53
B-1030 Brussels
Belgium

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