
# USER MANUAL

# **MS7800**

## Bed Scale

### Patient Transfer Scale

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

## Explanation of Graphic Symbols on Label/Packaging

| | | | |
|---|---|---|---|
|  | Caution, consult accompanying documents before use |  | Separate collection for waste of electrical and electronic equipment, in accordance with Directive 2002/96/EC |
|  | Manufacturer of medical device |  | Manufacturing year of medical device |
|  | Carefully read user manual before installation and usage, and follow instructions for use. |  | Medical electrical equipment with Type B applied part |
|  | Device catalogue number |  | Authorized representative in the European Community |
|  | Manufacturer's batch or lot number |  | Device is a medical device |
|  | Serial number |  | Unique Device Identifier |
|  | | | Device conforms to 93/42/EEC as amended by 2007/47/EC Medical Device Directive. Four digit number refers to Notified Body. |
|  | | | Device complies with International Organization of Legal Metrology (Class III) requirements (verified models only) |
|  | | | Device complies with EC directives (verified models only)<br><br>**M**: Conformity label in compliance with Directive 2014/31/EU for non-automatic weighing instruments<br><br>**19**: Year in which conformity verification was performed and the CE label was applied. (ex: 19=2019)<br><br>**0122**: Refers to Notified Body for metrology |

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# CONTENTS

# 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 Use

This device is intended to measure the weight of subjects with limited mobility, for professional diagnosis of weight-related issues.

### General Handling

- Device should be placed on stable, flat, solid, non-slippery surface.
- Usage on soft surfaces (ex: carpet) may result in inaccurate results.
- Ensure all parts are properly locked and tightened before operating the device.
- Device is intended to measure one subject at a time.

### Safety Instructions

- Batteries should be kept away from children. If swallowed, promptly seek medical assistance.
- Expected service life: 5 years.
- Always comply with appropriate regulations when using electrical components under increased safety requirements.
- The device is intended for indoor use only.
- Observe permissible ambient temperatures for use

### Environmental

- All batteries contain toxic compounds; batteries should be disposed of via designated competent organizations. Batteries should not be incinerated.

### Cleaning

- Device surface should be cleaned using alcohol-based wipes. Corrosive cleansing liquids should not be used. Pressure-washers should not be used.
- Do not use large amounts of water when cleaning the device, as it may cause damage to the internal electronics.

- Always disconnect device from mains power before cleaning.

**Maintenance**

- Device does not require routine maintenance. However, regular checking of accuracy is recommended; frequency to be determined by level of use and state of device. If results are inaccurate, please contact local distributor.

**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.
- All maintenance, technical inspections, 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.

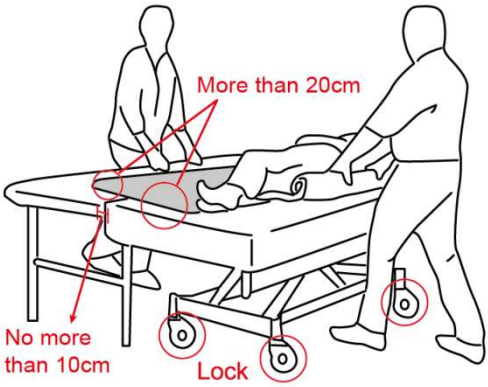
**Disposal**

- This product is not to be treated as regular household waste, but should be taken to a designated collection points for electronics. Further information should be provided by local waste disposal authorities.

**Warning**

Proper usage of the Patient Transfer Scale.

- The device should only be used by professionals trained in proper usage. Bed castors should be locked before usage. Distance between beds should be no more than 10cm. At least 20cm of the device should be on trolley and bed.




- Transfer between surfaces of similar height
- Inspect device for damage before use
- Do not overload. Maximum capacity: 250 kg / 550 lb

**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 Guidance and Manufacturer's Declaration

| **Guidance and manufacturer's declaration-electromagnetic emissions** | | |
|---|---|---|
| The MS7800 Bed Scale (Patient Transfer Scale) is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment. | | |
| **Emission test** | **Compliance** | **Electromagnetic environment-guidance** |
| RF emissions CISPR 11 | Group 1 | The device 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 device 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 MS7800 Bed Scale (Patient Transfer Scale) is intended for use in the electromagnetic environment specified below. The customer or the user of the device 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<br>± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air | ± 8 kV contact<br>± 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<br>+ 1kV for input/output lines | + 2kV for power supply lines<br>+ 1kV for input/output 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)<br>± 2kV line(s) to earth | + 1kV line(s) to line(s)<br>+ 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<br>0% UT for 1 cycle<br><br>70% UT(30% dip in UT) for 25 cycles<br><br>0% UT for 5 s | 0% UT for 0,5 cycle<br>0% UT for 1 cycle<br><br>70% UT(30% dip in UT) for 25 cycles<br><br>0% UT for 5 s | Mains power quality should be that of a typical commercial or hospital environment. If the user of the device requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery. |
| Power frequency(50/60 Hz) magnetic field IEC 61000-4-8 | 30 A/m | 30 A/m | The device 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 MS7800 Bed Scale (Patient Transfer Scale) is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that is used in such an environment. | | | |
| **Immunity test** | **IEC 60601 test level** | **Compliance level** | **Electromagnetic environment-guidance** |
| Conducted RF IEC 61000-4-6<br><br>Radiated RF IEC 61000-4-3 | 3 Vrms<br>150 KHz to 80 MHz<br><br>6 V in ISM bands between 0,15 MHz and 80 MHz<br>80 % AM at 1 kHz<br><br>3 V/m<br>80MHz to 2,7 GHz | 3 Vrms<br>150 KHz to 80 MHz<br><br>6 V in ISM bands between 0,15 MHz and 80 MHz<br>80 % AM at 1 kHz<br><br>3 V/m<br>80MHz to 2,7 GHz | Portable and mobile RF communications equipment should be used no closer to any part of the device including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.<br><br>**Recommended separation distance:**<br>$d = 1,2\sqrt{P}$<br>$d = 1,2\sqrt{P}$ 80MHz to 800 MHz<br>$d = 2,3\sqrt{P}$ 800MHz to 2,5 GHz<br><br>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).<br><br>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].<br><br>Interference may occur in the vicinity of equipment marked with the following symbol:<br><br>  |

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 device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.

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

**Recommended separation distance between portable and mobile RF communications equipment and the MS7800 Bed Scale (Patient Transfer Scale)**

The device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the device 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.

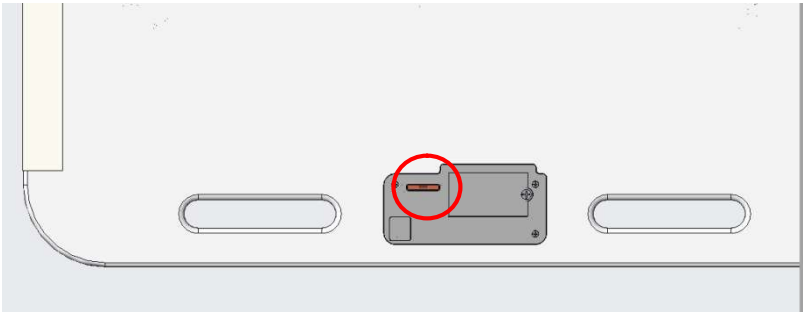
NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

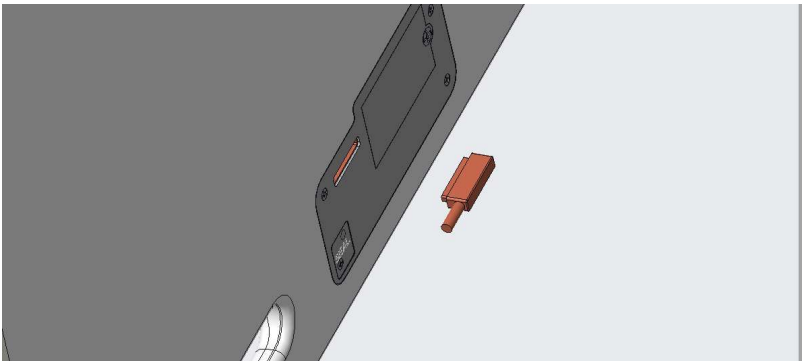
# II. Preparing to use Device

## A. Charging Device

Device should be fully charged before first use. Please allow 8 hours for full charge.

When low battery indicator on display appears, please charge battery promptly to avoid battery damage. Charging port is located on underside of device.





The port for the charging cable is magnetic. Clip end of cable in place, and plug other end of cable into power mains. Device cannot be used while charging. Do not use any form of charging cable other than the one supplied with the device.

## B. Standard Procedure

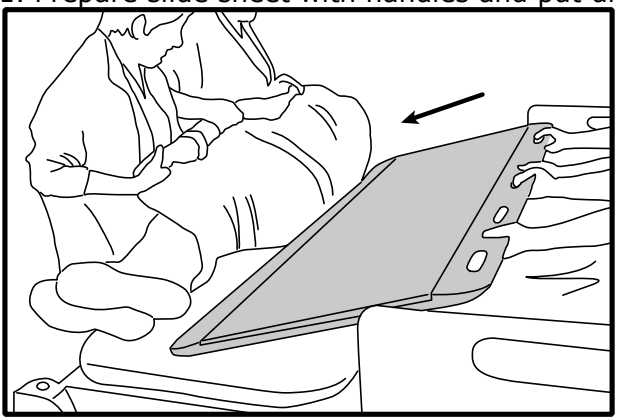
The device should be used in accordance with standard medical moving and handling procedure. It should be used in the same way as a transfer board, with a short period of time reserved in process to allow device to measure subject weight.

**SAFETY RULES**

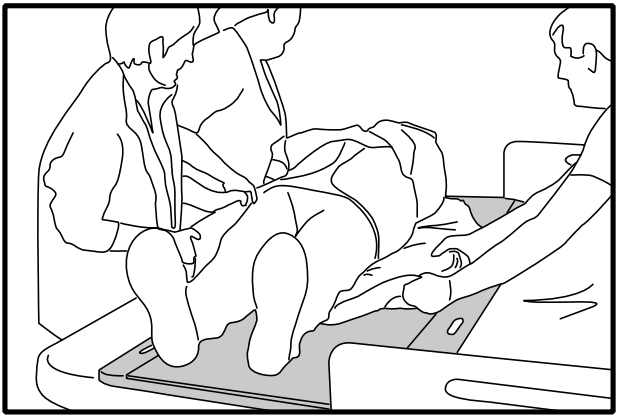
1. Device should only be used by trained professionals
2. Castor wheel brakes on beds should be applied before transfer.
3. Trolley/bed frames should be touching before transfer.
4. There should be no more than 20 cm between beds. At least 20 cm of the device should be on each bed or trolley before transfer.
5. When transferring, two surfaces should be of similar height. A tilt exceeding 3% will affect accuracy. (indicator will display an error if tilt exceeds 3%).
6. Do not overload. Maximum capacity: 250 kg / 550 lbs.

**INSTRUCTIONS**

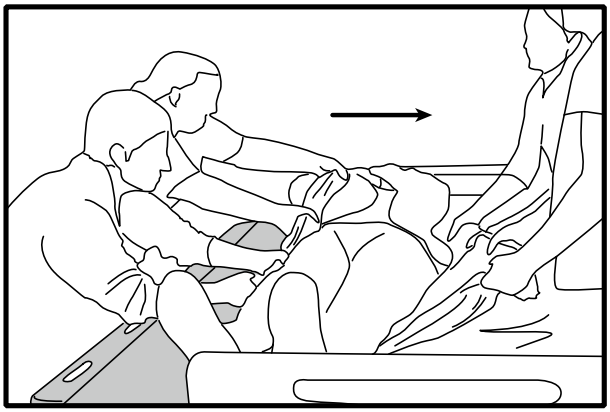
1. Prepare slide sheet with handles and put under subject.

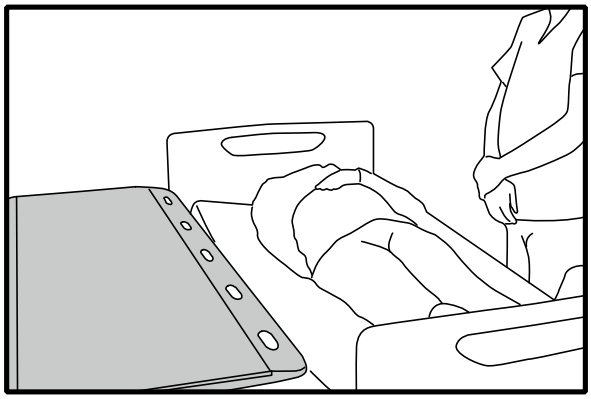


2. Help subject lie upon measurement platform. Conduct measurement (see Chapter V - Using Device).



3. After weight measurement, transfer subject and remove slide sheet.



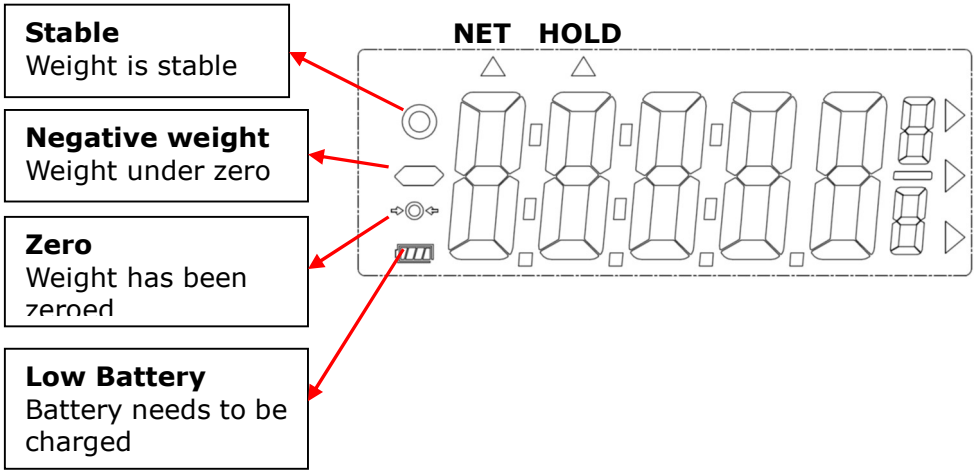


# III. Indicator

## A. Key Functions

| Key | Description |
|---|---|
|  | Power on or power off. When device is on, press and hold for 3 seconds to turn off. |
| | Reset the display to 0.0kg / Zero the scale (within ±2% of full capacity) |
|  | Determine stable weighing value - used when weight is unstable. |
| | Press and hold for 3 seconds to switch the weighing units of the scale from kg to lb (CE model only) |

## B. Display layout



# IV. Using Device

## A. Basic Operation

Switch on the device using  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  key to zero the device.

Guide subject to lay upon measurement platform. After weight has stabilized, the "stable" symbol will appear on indicator.

**Note**: If subject's weight exceeds scale capacity (250 kg), indicator will display "Err" prompt due to overload.

Press and hold  key for 3 seconds to power off.

## B. Hold

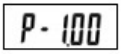
The hold function determines average weight, designed to be used if subject's weight will not stabilize (ex: an active child).

**Note:** if fluctuation is too severe, average weight determination will be difficult and hold may not function correctly. Hold cannot be used under 2 kg.

1. Switch on the device normally. Wait for "0.00 kg" to display on screen.
2. Guide subject to lie upon measurement platform.
3. Press the  key. "HOLD" will be displayed on the indicator.
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 measurement platform.
5. To release the locked weight, press the  key again to return to the device to normal mode.

**Note**: Hold function can be activated before or after subject lies upon platform. However, if subject finds it difficult to hold still, we recommend activating Hold after subject is on platform.

# V. Device Setup

When device is switched on, press and hold  key until  appears on display. Press  3 times to enter setup.

In device setup:

 **(ZERO):** confirm  **(HOLD)**: toggle

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

Auto off options: 30 min / 60 min / off

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

**Buzzer/Beep**:
When function is turned on, beeping noise will be made when buttons are pressed..

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


**Backlight On/Off**: When function is turned on, indicator screen will be backlit.

Press 

to toggle between on/auto. When "on" is selected, the backlight will always be on. When "Auto" is selected, backlight will be activated when there is a change in weight, or buttons are pressed.

Press  key to confirm selection.

To confirm all setting changes, press 

key when 

appears on display.

# VI. Troubleshooting

**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
- External objects interfering with measurement platform. Clear platform of objects and try again
- Device may not function properly on soft surfaces. Relocate device to location with solid, stable platform
- If the steps above cannot resolve the problem, re-calibration may be required to correct weighing accuracy

**Distributor support required**

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

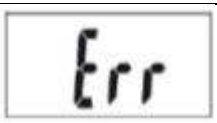
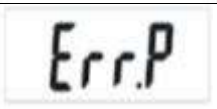
**1. Device will not power on**

- 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 |
|---|---|---|
|  | **Tilt Error**<br>Device is tilted by 3 degrees or more | Ensure device is as level as possible before use |
|  | **Low battery warning**<br>Voltage of battery is too low to operate device | Plug in charger or replace battery |
|  | **Overload**<br>Total load exceeds device's maximum capacity | Reduce weight on measurement platform and try again |
|  | **Counting Error (too high)**<br>Signal from loadcells too high | Error normally caused by faulty loadcell or wiring. Please contact distributor |
|  | **Counting Error (too low)**<br>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**<br>Fault with device software | Error normally caused by faulty loadcell or wiring. Please contact distributor |

# VII. Product Specifications

| Model | | MS7800 | |
|---|---|---|---|
| Weight Measurement | Capacity | 250 kg x 0.5 kg / 550lb x 1lb | 250 kg x 0.5 kg |
| | Accuracy | ±1.5e | ±1.5e |
| | Unit | kg / lb | kg |
| | OIML | N/A | Class III |
| | LCD Screen | 27.7 x 75.0 mm | |
| Dimensions | Overall | 1805(W) x 700(D) x 30(H) mm | |
| Device Weight | | 11.4 kg | |
| Key Functions | | On/Off/Zero Unit/Hold | On/Off/Zero/Hold |
| Data Transmission | | N/A | |
| Power Supply | | Rechargeable battery pack | |
| Operation Temperature & Humidity | | 5℃~35℃ 15% / 85% RH | |
| Standard Accessories | | User manual x 1<br>Charging cable x 1 | |

# Notes

# Notes

# VIII. 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 | 93/42/EEC as amended by 2007/47/EC<br>Medical Device Directive |
| CE M year | 2014/31/EU<br>Non-automatic Weighing Instruments Directive |

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

Authorized EU Representative:

EC REP

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