

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
CE year M	2009/23/EC Non-automatic Weighing Instruments Directive

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

Authorized EU Representative:



Manufactured by:

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

FDA no.: D051882 / 3007074192

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IN-1089 [9077G] 08/2011

charder®



MS 4900
Medical Scale
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 query or experience any problem 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 this device 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:

- ♦ 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 main 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.

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 organisation, 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 adversely be 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 `Zero` before use, if it does not then please press the ZERO key.
- ♦ The device is designed to detect when a stable weight is achieved, the indicator will `bleep` twice to indicate a stable

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.
	Overload: The total load exceeds the maximum capacity of scale	Please reduce the loading and try again.
	Counting error (too high): Indicates that the signal from the load cell/s is too height	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.
	Zero count over calibration zero range +10% while power on	Please re-calibrate the instrument.
	Zero count under calibration zero range -10% while power on	Please re-calibrate the instrument.
	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.

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.

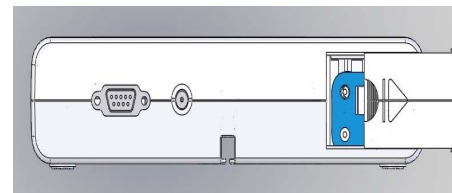
DISPOSING OF THE SCALE

- ♦ This product is not to be treated as regular household waste, but should be handed into 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.

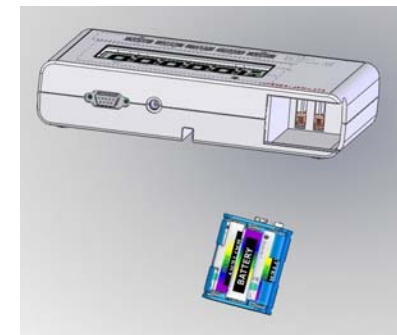
SPECIFICATION

Model	MS 4900		
Capacity	300kg	300kg	150kg
	100g	200g<200kg>500g	100g<100kg>200g
Accuracy	±150g	±200g<200kg>±500g	±100g<100kg>±200g
Weight Unit	kg/lb	kg(OIML approved)	
LCD Display	1.2 inch LCD display with 5 and 1/2 digits		
Dimension	360(L) X 520(W) X 1020(H) mm		
Key Functions	UNIT , PRINT , ON & OFF / ZERO , HOLD/BMI , TARE		
Power Supply	➤ 6-AA size batteries ➤ 15V DC adapter 300mA		
Operation Temperature	5℃ / 35℃ ; 0℃ / 40℃ (approval)		
Standard Accessories	Screw x 4 , Adaptor x 1 , RS232 cable x 1 , User manual x 1		
Options	Mechanical Height Measurement HM200M		
	Mechanical Height Measurement HM201M		
	Digital Height Measurement HM200D		
	Digital Height Measurement HM201D		

INSTRUCTION FOR REPLACING BATTERIES



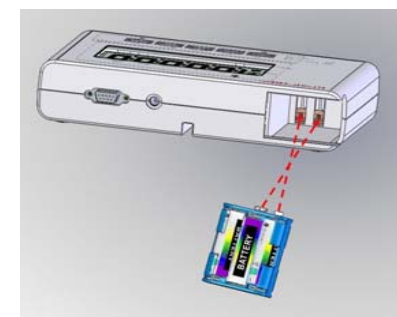
1. Open the battery housing cover



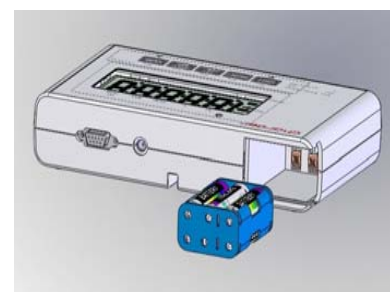
2. Take out the battery housing



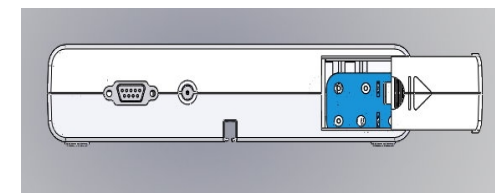
3. Place the batteries



4. Make sure that the battery housing pins will touch the right points

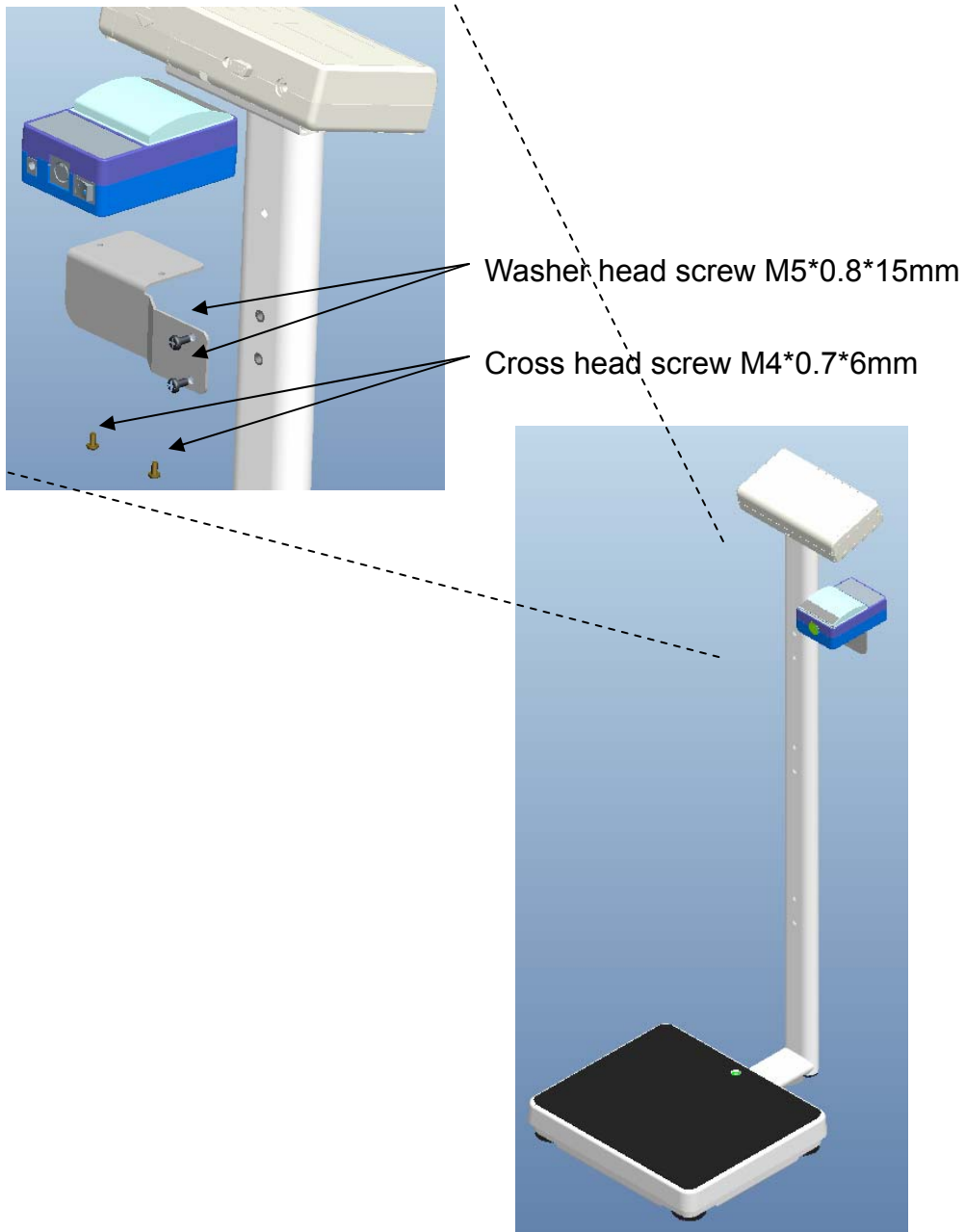


5. Re-install the battery housing

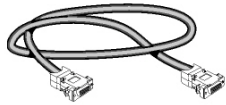


6. Close the battery housing cover.

ASSEMBLY OF TP2100 PRINTER

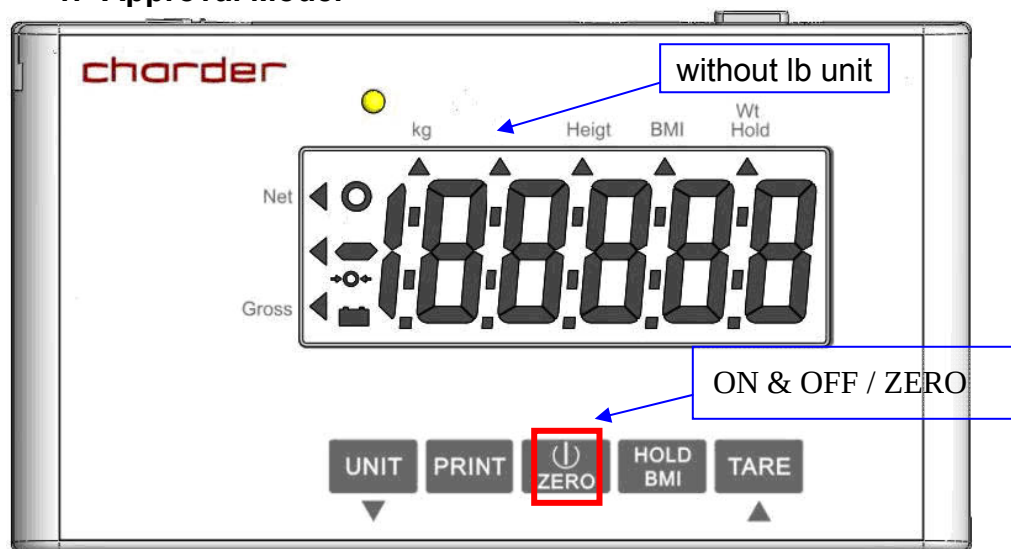


Standard Accessories

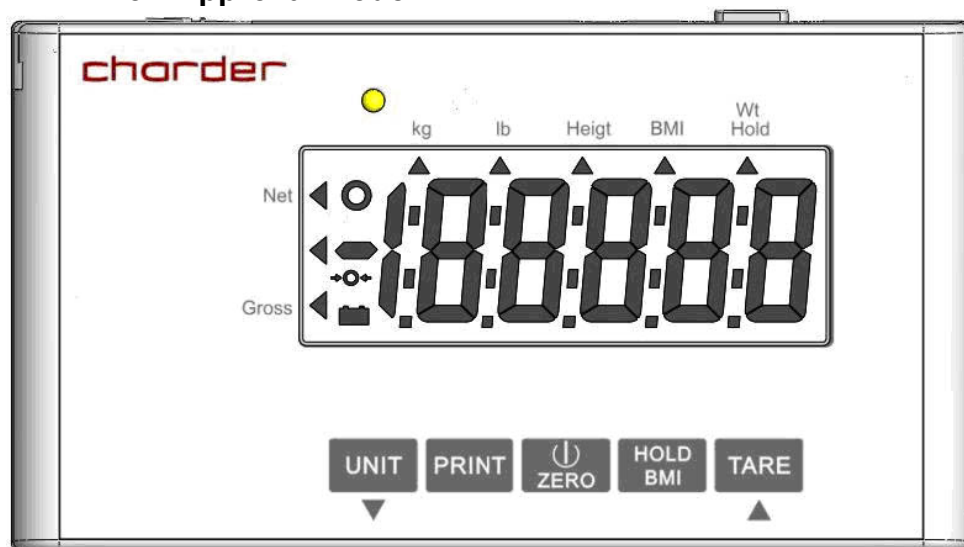
No.	Accessories	Item	Spec.	Qty.
1		Flat head screw	M6 x 20	4
2		15V 300mA adaptor		1
3		RS232 cable		1
4		User manual	IN-8426	1

PANEL

1. Approval Model

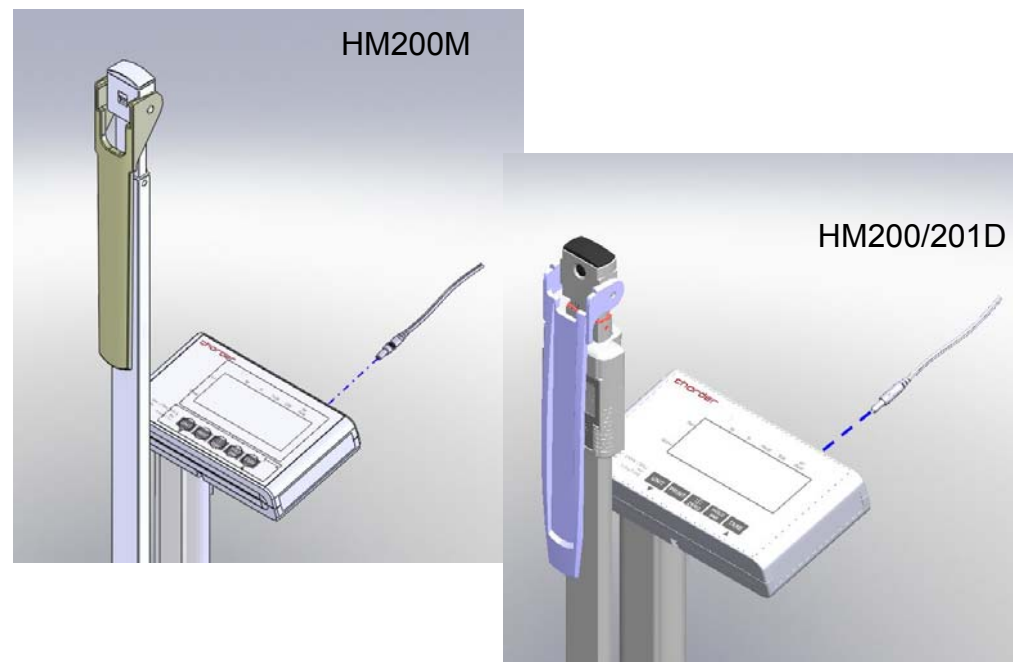


2. Non-Approval Model



INSTRUCTION FOR CHARGING AND CONNECTING

If **Lo** prompt displays on the LCD, please charge the scale with MS 4900 exclusive adaptor or replace the batteries.
Locate adaptor plug-in at the back side of indicator.



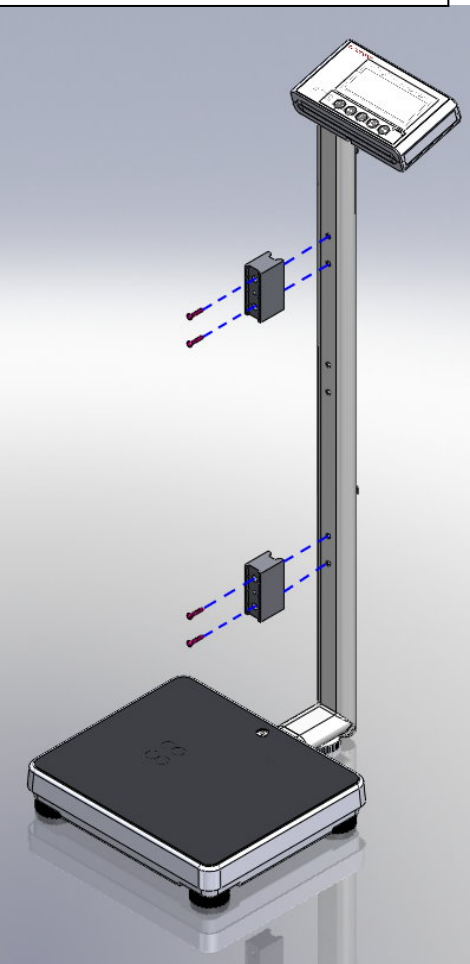
CAUTION:

- Always connect the AC adaptor with the indicator before connecting to the mains power supply.
- Please disconnect the adaptor from main power supply before taking out the AC adaptor pin from indicator.

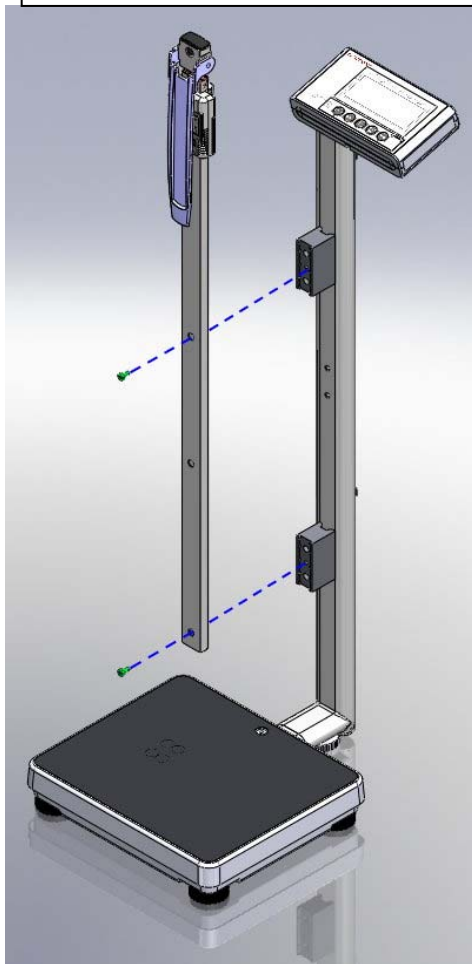
USING & ASSEMBLING: HEIGHT ROD-HM200D/201D/ 201M

After assembling HM 200D/201D with MS4900, connect the height rod cable with scale indicator. Height will be transmitted from HM200D/201D to MS4900 when MS4900's BMI mode is activated. HM201M is mechanical height rod has same assembly procedure with HM200D/201D.

1. Fix blocks on the column and tight the screws.



2. Fix HM200D/201D/201M on the block and tight the screw.



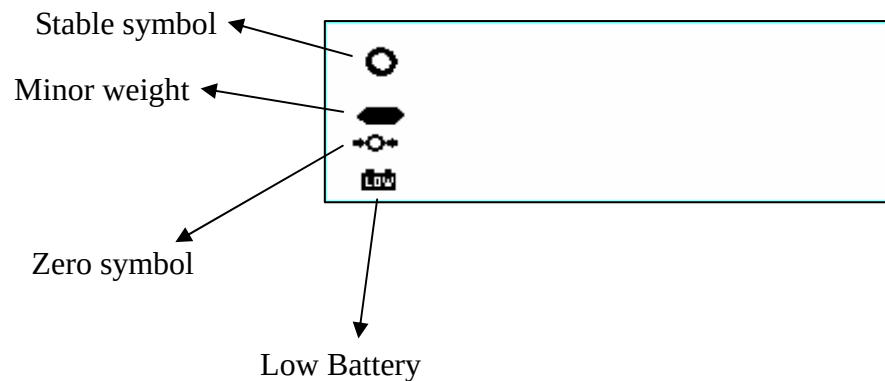
KEY FUNCTION

Key	Description
UNIT	To change the weighing unit from kg-lb and lb-kg. For Approval Model this key has been locked at kg unit. (OIML)
PRINT	Data transmission via interface(Print-out the results)
ZERO	Turn ON/OFF the scale. To reset the display to 0.0kg display / Zero the scale ($\pm 2\%$ of full capacity)
HOLD BMI	To hold weighing result on the display / long press for 3 seconds to determine Body Mass Index
TARE	Tare un-wanted weight.

LCD DISPLAY SYMBOLS



Definitions



Stable symbol: To indicate that the weight is stable..

Minor weight: Weight under zero.

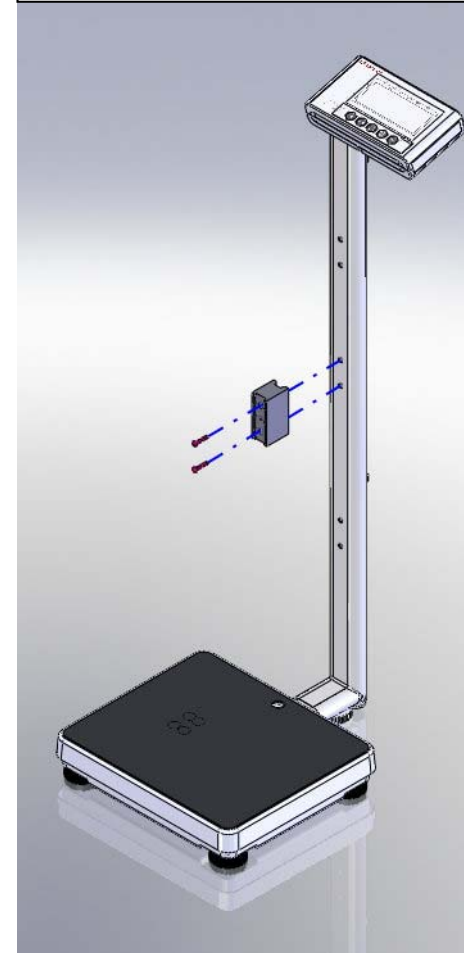
Zero symbol: Weight is at zero point.

Low battery: Battery need to charge or replaced.

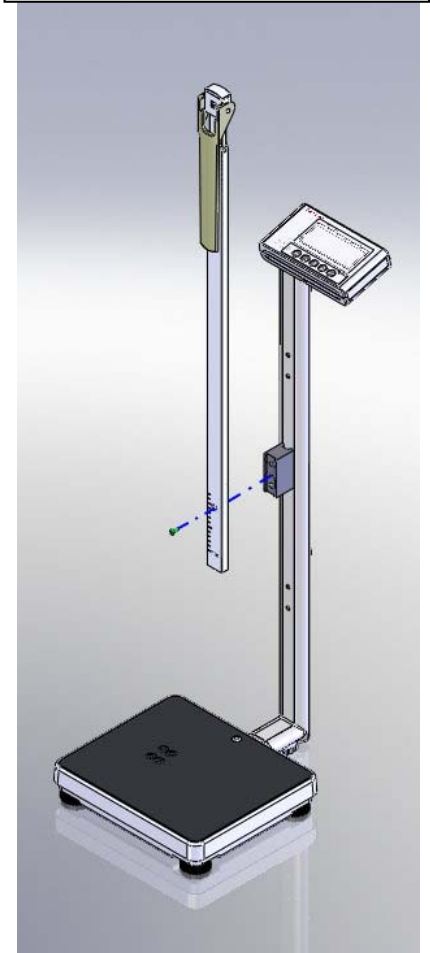
USING & ASSEMBLING: HEIGHT ROD -HM200M

After assembling the HM 200M height rod, simply pull up the height rod and adjust the head piece according to the person's height and key in the height to calculate B.M.I.

1. Fix block on the column and tight the screws.

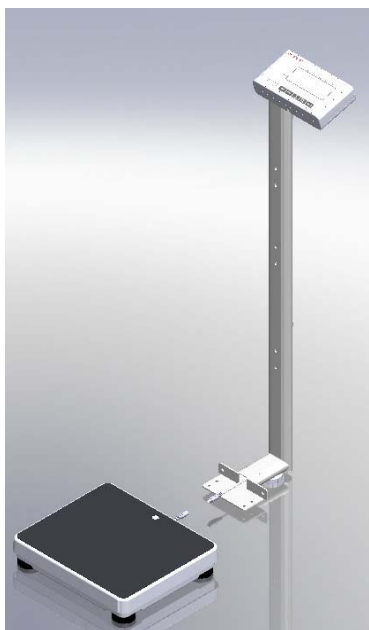


2. Fix HM200 M on the block and tight the screw.

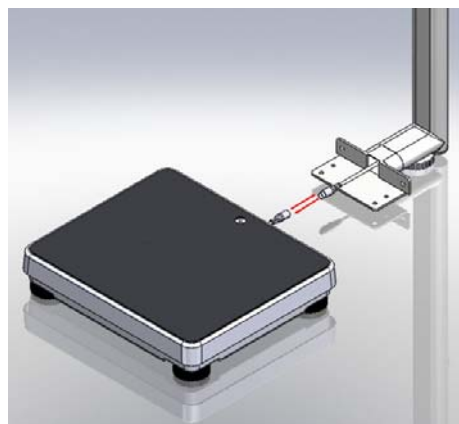


SCALE ASSEMBLING

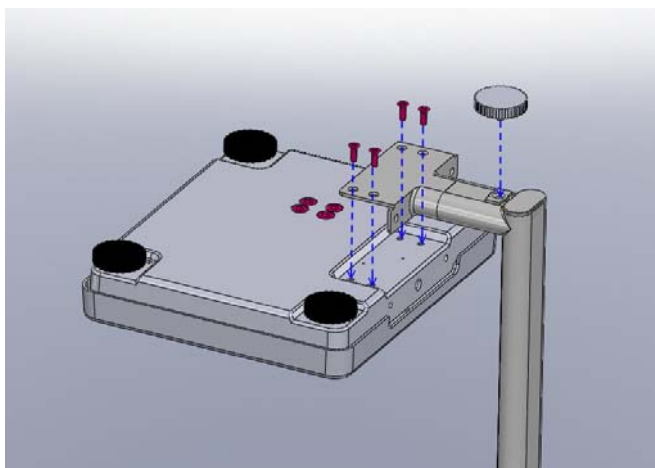
1. Assembling column with base.



2. Connecting wire between column and base first



3. Tightening four screws at the bottom of base.
Assembling is complete.



USING SCALE

WEIGHING

- ♦ Switch ON the scale using  key. The diagnostic scale self-check is performed and the software version is displayed.
- ♦ The „0,00 kg” weight displays on the screen, now the scale is ready for weighing.

Note: If „0,00 kg” wont display on the screen, press  key to zero the scale,  can be used any time to zero the scale.

- ♦ Place a person in the middle of the scale. Wait until the scale stabilizes and stable sign (o) shows on the screen.
- ♦ To turn of MS 4900 long press  key for 3 seconds.

Direction:

If a person is heavier than the scale capacity, the display will show the „Err” prompt (= overload).

USING HOLD FUNCTION

MS 4900 is provided with the integrated hold function (determination of average value). It enables people to be weighed accurately although they are not still on the scale plate. Once the HOLD key is pressed, the weight reading will remain on the display after the item has been removed from the scale so the reading can easily be read.

Note:

- Determination of average value is not possible when a person moves too much.
 - HOLD function won't work if the weight is under 2 kg.
- Switch 'ON' the scale using  key. The diagnostic self-checks is performed. The scale is ready for weighing when the „0.0 kg” displays on the screen.
 - Place object/ person in the center of the scale plate.
 - Press the  key. When the triangle is flashing on the display, the scale records the fluctuating weight values and then calculates average weight and displays the result on the screen.
 - Remove the object/ person from the scale platform. The object/ person's weight reading will remain on the display.
 - Press the  key again to return the scale to the normal weighing mode.
 - HOLD key function can be activated before or after putting the weight on the tread platform. But in case of weighing unstable person it is recommended to press HOLD key before the person moves on the tread platform.

option for select. Then click OK.

4. Port Settings

Click Bits per second to set up rate at 9600, Data bits at 8, Parity at None, Stop bits at 1 and Flow control at Hardware. Then click OK to complete your setting.

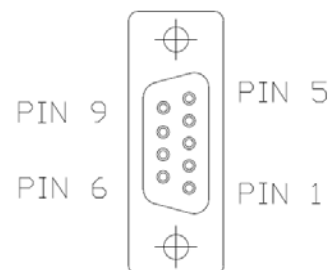
5. Output Data

When the patient has been weighed and BMI calculated, simply press the PRINT key to output data from scale to PC or an Optional Printer.

Parameters of RS232 interface

Set parameters of the scale interface on the connected device. It is not possible to change the scale parameters.

- Baud rate: 9600 bps
- Parity check: None
- Data length: 8 bits
- Stop bit: 1 bit
- Handshake: RTS/CTS
- Data code: ASCII.



PIN OUT FOR DB9P (F)

TXD	-----	2
RXD	-----	3
GND	-----	5

PRINT FUNCTION

The Weighing, BMI and Height results can be printed-out for records using RS232 interface cable (included in accessory kit), which is connected with the round plug at the back terminal.

After weighing and calculating BMI simply press **PRINT** key to print out the results.

The format presented below is the standard format of results print-out and cannot be changed.

GROSS WEIGHT	88,8 kg
TARE WEIGHT	2,0 kg
NET WEIGHT	86,8 kg
PATIENT HEIGHT	188,5 cm
PATIENT B.M.I	24,4

Connecting with PC- MS 4900 both can be connected to PC to transfer the weighing results.

1. Start Hyper Terminal

Start Hyper Terminal program from clicking

Start Menu → Programs → Accessories → Communication → Hyper Terminal.

2. New Connection Description

Give new connection a name then click OK.

3. Select Your COM Port

Click Connect to select your COM port. Usually there's only one

USING TARE FUNCTION

Tare allows the user to zero the instrument to cancel the weight of a container/ clothes from the reading of the instrument, thus giving the true weight of the product/ person being tested.

- Place the object need to be tare on the tread platform.
- Press TARE key after the weight stabilizes and stable sign displays.
- Place the object need to be weighed (without removing the tare object)

To delete the saved tare value, remove the tare object from the tread platform and press **[TARE]** key.

USING BMI FUNCTION

For BMI calculation, height is needed, therefore it is recommended to measure the height of subject before starting weighing procedure.

- Turn ON the scale using  key.
- Proceed to weigh as normal.
- After the weight is stable and stable sign displays on the screen long press  key. 
- Display will show the last height value.
- Change the height using  and  key. (Press  key to increase the height and use  to decrease).

OR

- If the scale has HM 200D/ HM201D digital height measuring

rod simply connect it with MS 4900 and measure the height: the measurement results will transfer automatically.

- Press **HOLD BMI** key to confirm, the Display will show 'WEIGHT and BMI' simultaneously.
- Press **HOLD BMI** key again to return to weighing mode.

*Scale will not calculate BMI and weight if weight is unstable

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

Note:

1. Height range: 50-210cm (MS 4900 won't except height under 50cm and above 210cm)
2. Weight range: over 10kg (For BMI calculation weight must be 10 kg or above).

SETTING-UP MS4900

Switch ON the scale and long press [TARE] key for 3 seconds, first "P 1.1" (software version) and then "A.OFF" will display successively.

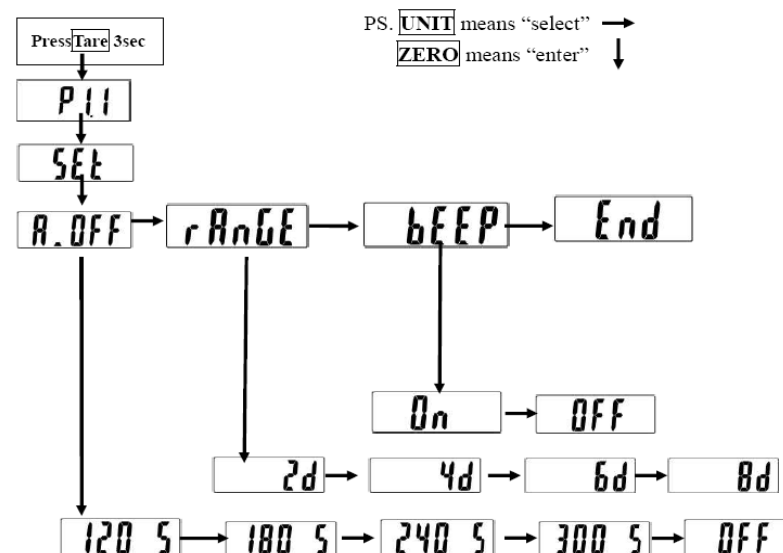
AUTO-OFF TIME SETUP

This enables operator to select the auto turn OFF time of the device.

BUZZER ON/OFF SETUP

- This enables operator to select beep sound ON/OFF.

- Auto off time: 120 sec/180 sec/240 sec/300 sec/off
- Range: 2d/ 4d/ 6d/ 8d
- Buzzer: On/Off



Note: To confirm the settings, please press ZERO when

End

displays on the display.