

Operating Manual

ADE

Class III approved Scales
Electronic Wheelchair Scales

M501020



M501020-210322-Rev006-UM-e



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Installation and use of scale



This symbol means: "Consult operating instructions". To achieve accurate results, read the instructions for use carefully before use and follow all instructions provided therein. Keep the instructions for use for future reference.

Your ADE Electronic Wheelchair Scale is a class III approved scale which has been manufactured for medical use in hospitals, by doctors or medical specialists as well as in rehabilitation centres or nursing homes.

Portable and mobile HF-communication systems may influence electronic medical devices.

Electronic medical devices are restricted to special safety regulations in respect of their electromagnetic compatibility and have been positioned and operated strictly as per the instructions of this Operating Manual.

The scale is used to evaluate the weight of patients sitting in a wheelchair, able to walk on their own or by using any kind of walking aid or lying on an emergency litter. Due to its high capacity the scale is also used for adipose patients.

The scale is a precision instrument for medical use.

The weighing result is used as an essential basis for medical application decided by doctors or medical personnel in hospitals, nursing homes, rehabilitation- and dialysis centres.

In order to achieve the best possible results kindly read and follow the Operating Manual in all respects.

Check carton contents

The scales are already mounted trough and ready for use.

In the scope of supply are contained:

- Platform Scale comply mounts
- Indicator and cable with jag connector system
- Mains adapter
- Operating Manual including Certificate of Conformity



In any case, check that the serial numbers on the scales and the display unit match!
This is a mandatory precondition for using the scales in legal metrological applications.
Observe the safety instructions!

Assembling the scales

The ADE-MAK display unit can be mounted on walls or bases, or can be used as a stationary unit on a table.

If your scales are not connected to the ADE-MAK, connect your scales to the ADE-MAK scales connection point (Fig. 2-1) using an appropriate connecting cable.

You must make sure that the display unit is set up dry, without being knocked, and that it is secured against falling. Connect the data cable for the display unit to the scales.

Unpack the scale and the display carefully.

Place a scale onto a solid and flat underground so that all feet have contact with the ground.



If the scale was transported or moved, the scale must be lined up again.

Mains and battery connection for the scales

Power is supplied either through the rechargeable battery pre-installed in the display unit or through mains power via the supplied power unit. The imprinted voltage value must match the voltage on-site. Connect the mains cable to the connection socket and connect the mains plug to a wall socket. Note: The wall socket must be located near to the unit and be easily accessible. Only the power adapter supplied may be used. The connection socket for the mains cable must be securely connected to the display unit.

The power unit supplied is simultaneously used to charge the battery pack.

When charging the battery for the first time, ensure a sufficient charging period of approx. 24 hours.

If you are using the unit in battery mode and the display indicates – **Lo**, then the battery must be recharged by plugging in the power adapter.

Allow a charging period of 12-16 hours. The battery must be charged with the unit switched off. When the battery is fully charged and the unit switched on, –**Lo**– must not appear on the display. If it does, please inform your service partner.

Mains connection

The following diagram shows the pin arrangement for mains connection:

Pin	1	2	3
Name	DC+	DC-	Mass

Installing a rechargeable battery

The battery compartment is located on the front of the unit.



- 1) Open the battery compartment.
- 2) Remove the battery cables carefully from the housing, connect the wires (red to red, black to black) and insert the battery into the housing.
- 3) Close the battery compartment again.



Only use original rechargeable batteries and charger units. The warranty does not cover any damage caused by using other types of batteries or charger units.

Tips for handling the batteries

The life of a battery depends essentially on the load, frequency of use, temperatures, settings and the accessories used.

- New batteries or batteries that have been stored for long periods require a longer charge period.
- Charge the batteries at room temperature.
- Store the batteries empty (uncharged) in a cool, dark and dry place.
- Never subject the batteries to temperatures below -10°C (14°F) or above 45°C (113°F).
- Over the course of time, batteries lose their charge capacity and require a longer charge period. If the battery performance drops considerably, then it is time to replace the battery.
- New batteries are supplied partially charged. Some batteries only achieve their full capacity after several complete charge and discharge cycles.
- When disposing of disused batteries, observe the valid legal and municipal regulations.



Never dispose of batteries in fire as they can leak or explode!

Quality features

ADE products correspond to the applicable EC Directives and European standards to manufacture and distribute world-wide medical devices as per the latest technical standards ensuring a long life time and continuous reliability.



This symbol stands for compliance of the European Directive covering medical devices and declares the conformity as per the Medical Device Law..



Approved scales classes III respecting the standards of the European guideline covering approved scales are carrying this sign.



Scales carrying this symbol are approved and accredited within the European Community and fulfils first class demands for calibrated scales.



Products carrying this symbol meet the requirements as per:

- The valid EC Directive for non automatic scales in the latest version.

Using the scales for legal metrological applications

The scales may be used in medical facilities for diagnostic and medicinal purposes as long as they are calibrated. The scales must be recalibrated according to legal conditions and regulations.

ADE-MAK display unit

Description

The ADE-MAK is a digital precision display unit for medical use in hospitals by doctors, specialists and paediatricians. The compact design and optional battery operation make the ADE-MAK ideal for portable use. The unit in particular features easy operation, high efficiency and long-lasting operation (over 200 hours in power save mode).

The latest Sigma-Delta A/D technology is used in the ADE-MAK. This guarantees extremely fast and accurate measurements. Set-up and calibration are digital; all set-up parameters are permanently saved. The unit can be optionally operated using battery or mains power. There is a soft on/off function which retains saved values. If the unit is on, it will automatically restart if there is a brief interruption to the power supply.

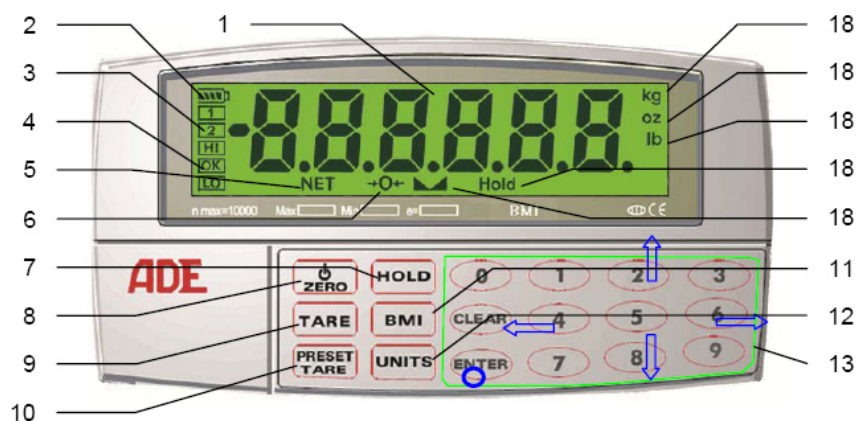


Fig. 1-1 Indicator and operating controls

No.	Name	Function
1	Display	LCD display for indicating weight, as well as showing the mode and configuration information.
2	Battery charge level	Status indicator for the current battery charge level.
3	Switching points 1 & 2	Status indicator for switching points 1 & 2.
4	BMI status indicator (HI, OK, LO)	Status indicator, automatic BMI (Body Mass Index) evaluation.
5	Net status indicator	LCD on - net weight is shown on the display. LCD off – gross weight is shown on the display.
6	Status indicator →0←	LCD on - the weight is within ¼ of a calibrated value from the zero point. LCD off - the weight is outside ¼ of a calibrated value from the zero point.
7	Hold	Press to activate the hold function.
8	On/off, zero	Turns the unit on and off or re-sets the display.
9	Tare	Press to tare the scales.
10	Preset tare	Press briefly to access the tare function. Press for a long period to enter and save the tare value.
11	BMI	Press to access BMI mode and to enter the height. Press again to return to weight mode.
12	Units	Press to change between primary and secondary units.
13	Number pad	Figures 0-9, Clear, Enter. - <u>Navigation functions:</u> Key 6 means to the RIGHT Key 4 means to the LEFT Key 8 means DOWN Key 2 means UP
	<u>Special function:</u> "0" key "Enter" key	In weight mode, you can change between gross and net weight using figure "0" (if the scales have been tared). Function in weight mode: "Print".
14	Standstill status indicator (14):	The scales are at standstill (precondition for functions such as resetting, printing and taring). LCD off: The scales are not at standstill
15	Hold	Status indicator, LCD on - display frozen.
16	lb	Status indicator, LCD on - the weight is shown in pounds.
17	oz	Status indicator, LCD on - the weight is shown in ounces.
18	kg	Status indicator, LCD on - the weight is shown in kilograms.
	g	Status indicator, LCD on - the weight is shown in grams.

Indicator and operating controls

The blue symbols under the keys (up, down, left, right) describe the key functions in configuration and setting modes. These keys are used to navigate through the menus, to select numerical values and to increase or lower the values.

Features

- Large, 6-digit LCD display, digit height 21 mm.
- Either battery operation or mains operation.
- Integrated charging function.
- Supply for four 350 Ω or eight 700 Ω weighing cells.
- An RS-232 interface, full-duplex, with configurable address (for PC connection).
- An RS-232 interface, semi-duplex (for printer connection or remote display).
- One print format (500 characters).
- Power save mode (adjustable unit shutdown, adjustable shutdown of the background light).

- Automatic unit converter, manual unit selection (lb/kg/oz/g).
- Operating period over 200 hours in power save mode. Max. 100 hours operation with a 350 Ω weighing cell (in battery operation mode, per cell).
- Easy calibration, with test and setting functions carried out via a hyper-terminal program.
- Manual tare setting using a key pad.
- A system clock for print formats.
- Trade approved/capable of being calibrated.
- Suitable for 0.5 mV/V to 4 mV/V weighing cells without jumper settings.
- Overload/under-load display.
- Indicator for the current battery charge level.
- Animal weighing function.
- Three hold functions.
- BMI calculation and adjustable, automatic evaluation display.
- Switching points and digital inputs (optional).

Safety instructions



The ADE-MAK display unit corresponds to the status of technology and complies with standard regulations and directives.

The user must observe the safety instructions in this operating manual, the country-specific installation standards as well as the applicable safety conditions and accident prevention regulations.

- Before commissioning, ascertain whether the mains voltage and power type stated on the type plate match the mains voltage and power type at the place of use.
- Make sure that the mains cable does not pose any potential trip hazard.
- Only use approved accessories and peripheral equipment.
- Only operate the unit in the permitted ambient conditions (see p. 7 and 14).
- Remove the mains plug before cleaning the unit.
- Do not operate the unit in hazardous or unstable conditions.
- Do not submerge the unit in water or other liquids.
- All actions/operations described in this operating manual may only be carried out by trained and authorised professional personnel.
- Using accessories that do not meet the safety requirements of this unit can lead to a reduction in the safety level of the entire system.
- Set up the unit as far away as possible from equipment that generates electromagnetic or other interference.
- Before using high-frequency surgical equipment, defibrillators, etc. read their respective operating manuals.
- Only ADE power adapters may be used to avoid any risk of fire and electric shock.
- Clean with a dry cloth; do not use any sharp cleaning materials.

Status displays

The ADE-MAK display has a series of LCD status displays which provide information about the value shown:

- NET status indicator (5):
LCD on - the net weight is shown on the display.
LCD off - the gross weight is shown on the display.
- Status indicator $\rightarrow 0 \leftarrow$ (6):
LCD on - the weight is within $\frac{1}{4}$ of a calibrated value from the zero point.
LCD off - the weight is outside $\frac{1}{4}$ of a calibrated value from the zero point.
- Standstill status indicator $\blacktriangle \blacktriangleleft$ (14):
LCD on - the scales are at standstill (prerequisite e.g. for print and tare functions).
LCD off - the scales are not at standstill.
- Status indicators lb, kg, oz, and g (16, 17, and 18):
LCD on - the weight is displayed in the corresponding unit: lb = pounds, kg = kilogram, oz = ounce, g = gram.

The units shown can be set to primary and secondary units. Both units can be freely selected by the user. In weight mode, the UNITS key (12) can be used to change between primary and secondary units.

Examples:

- If the primary unit is pounds (lb) and the secondary unit is kilograms (kg), the lb LCD will be on for the primary units and the kg LCD will be on for the secondary units.
- If the primary unit is kilograms (kg) and the secondary unit is pounds (lb), the kg LCD will be on for the primary units and the lb LCD will be on for the secondary units.

Connecting ancillary equipment

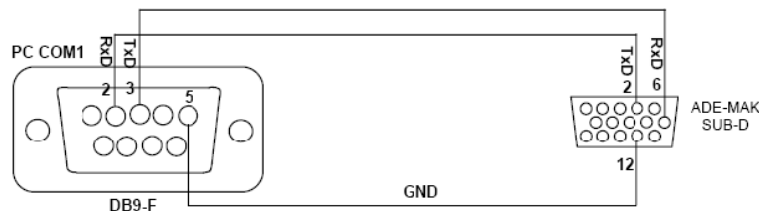
It is possible to connect ancillary equipment such as a printer, PC or remote display (interface RS-232).

The serial interface is connected to the SUB-D connection, 15-pole (cf. Fig. 2-1 and 2-2).

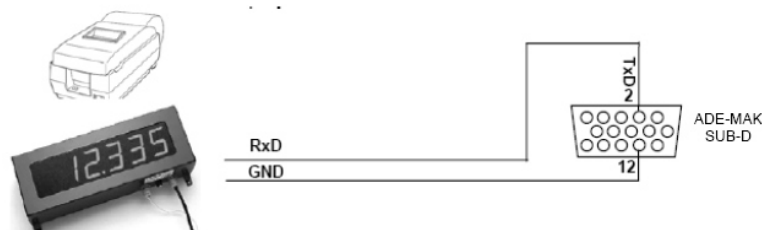
The PC connection only supports the RS-232 interface. The printer connection offers both an active 20mA output and also the RS-232 interface.

Both interfaces are configured via the SERIAL menu.

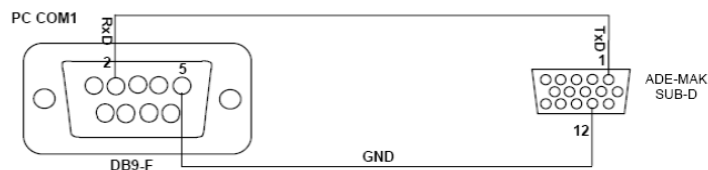
- EDP port (RS-232C, can be used for PC, printer or remote display)
 - To Personal Computer



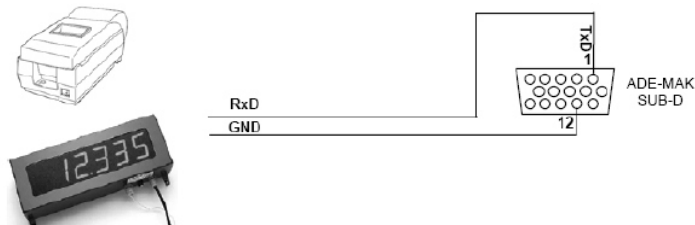
- To Printer or Remote Display



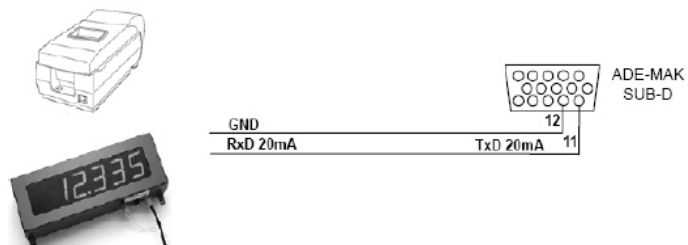
- Printer connections (TxD 20 mA, either a printer or remote display can be used)
 - To Personal Computer (RS232C, ADE- MAK Stream Output)



- To Printer / Remote Display (RS232C, ADE- MAK Print Function/Stream Output)



- To Printer / Remote Display (+20mA, ADE- MAK Print Function/Stream Output)



Housing and connections

The mains connection, serial connection and weighing cell connection points are located on the back of the ADE-MAK housing. The set-up switch to start configuration mode is recessed underneath the housing. It is protected by a cover plate and secured by a cylinder head screw (not shown in Fig. 2-1). The PIN allocation of the connecting sockets is shown in Fig. 2-2.



Do not press the set-up switch as otherwise calibration will be lost (reserved for use by service personnel only)!

Manipulations made to test and configuration modes will result in the forfeiture of any warranty claims!

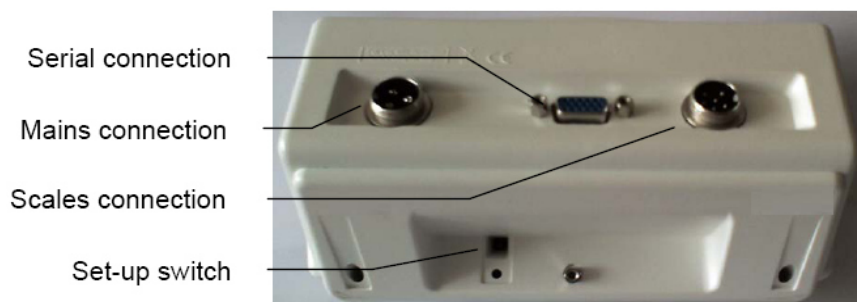


Fig. 2-1 Back view of the ADE-MAK

A PC, printer or digital inputs and outputs can be connected through the SUB-D connecting socket.

Pin	Connection	Function
<u>1</u>	Printer connection	RS-232 TxD
<u>2</u>	PC connection	RS-232 TxD
<u>3</u>	N/C	spare
<u>4</u>	OUT1/2 COM	Shared switching points 1 & 2
<u>5</u>	OUT2	Switching point 2
<u>6</u>	PC connection	RS-232 RxD
<u>7</u>	N/C	spare
<u>8</u>	RSW1/2/3	Digital inputs 1+2+3 Mass
<u>9</u>	N/C	spare
<u>10</u>	OUT1	Switching point 1
<u>11</u>	Printer connection	TxD 20 mA
<u>12</u>	PC/printer connection	RS-232 mass/-20 mA OUT
<u>13</u>	RSW1	Digital input 1
<u>14</u>	RSW2	Digital input 2
<u>15</u>	RSW3	Digital input 3

Table 2-1 SUB-D for EDP/Printer/Remote switch

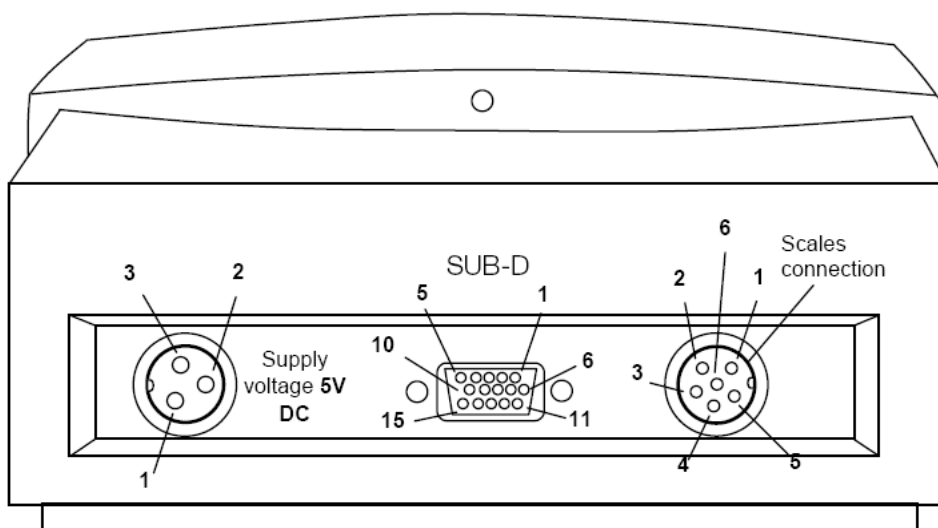


Fig. 2-2 Back view of the ADE-MAK, PIN arrangement of the connecting sockets

Modes

The ADE-MAK display unit has four modes:

- **Normal mode (weight mode)**

Normal mode is the "weighing mode" on the display unit. The display unit displays gross or net weight as required (using an LCD status indicator; if NET is on the display then the weight shown is net, otherwise it is gross weight). Following initial configuration and sealing (by attaching a calibration sticker to the back of the unit), the ADE-MAK can only be operated in this mode.

- **Setting mode**

Date, time and consecutive numbers for print commands are set in setting mode. To start setting mode, hold the GROSS/NET key pressed until TIME appears on the display.

- **Configuration mode (set-up mode)**

The values for different parameters can be set in configuration mode and the display unit calibrated. This function is reserved for service personnel.

- **Test mode**

There are different diagnostic functions for the ADE-MAK in test mode; this is reserved for service personnel.



Manipulations to test and configuration modes can revoke the calibration status and will result in forfeiture of any warranty claims!

Settings

The following functions are available in setting mode:

- Select the serial interface, no metrological parameters.
- Set date, time and consecutive printout numbers.
- Set print format.
- Set switching points.
- Test functions

Access the function menu by pressing the CLEAR (13) key until TIME appears on the display. Use the key pad (13) to navigate within the menus, to select numerical values and to increase or lower the values. Press the ENTER key to save the values entered and to return to the super ordinate menu level.

Menus structure of setting mode:

FILTER	SERIAL	PROGR	PFORMT	SETPTS	TEST	TIME	DATE	VERS
--------	--------	-------	--------	--------	------	------	------	------

Setting date and time

- Hold the CLEAR key pressed for approx. 4 sec; **FILTER** appears on the display.
- Press key "6" 6x; **TIME** appears on the display.
- Press ENTER key; **SHOW** appears on the display.
- Press key "6" 1x; **HOUR** appears on the display.
- Press ENTER key and set the hours using the arrow keys "2", "4", "6" and "8".
- Press the ENTER key and set the minutes and seconds.
- Go back by pressing key "2"; **TIME** appears on the display.
- Press key "6" 1x; **DATE** appears on the display like the time entry.
- Press key "2" 2x; **EXIT Y** appears on the display.
- Confirm with ENTER; date and time are set.

Operating the scales

Aligning the scales

Place the scales onto a solid, even surface

Align the scales so that all feet are in contact with the surface.

Check that the scales are horizontal using a spirit level ensuring that the air bubble is centred.

Connect the display unit to the scales platform using the connecting plug provided.

If the scales have been transported or were in storage, they will need to be re-aligned as described above.



Setting the weight unit

Select the weight unit (kg/oz/lb) by pressing the **Units** key. The corresponding LCD status indicator (16, 17 or 18) for the current weight unit lights up.

Determining the weight

Press the ON key for at least 3 seconds to turn the scales on. An automatic function test is carried out after being switched on. This is completed by displaying zero. The scales are now ready to operate. If the display shows zero, the scales can be loaded. The weight can be read directly after a period of standstill.

Resetting the scales


Wait until the standstill status indicator  (14) is on. By pressing the ZERO key (8), measuring inaccuracies are compensated for after the scales are switched on and reset before the actual weighing process. The status indicator  (6) is on when the scales are reset.

Tare functions

Taring the scales:

Use the TARE key (9) for example if the patient is being weighed with other items (e.g. clothing, shoes or other items). To do this, weigh these items first. After the weight is displayed, press the TARE key (9) to reset the display again. The ADE-MAK changes to net mode (NET status indicator (5) is on). The weight of the previously weighed and saved items is deducted later when weighing the patient and only the patient weight is displayed.

Deleting saved tare values:

Remove the weight from the scales and wait until the standstill status indicator  (14) lights up. Press the TARE key (9). The ADE-MAK changes to gross mode (NET status indicator (5) goes out).

Enter the manual tare value:

Enter the appropriate tare value using the key pad. If no value is entered "ER TOUT" will appear on the display. The ADE-MAK changes automatically to weight mode. If the tare value has been entered correctly, the value will be saved in the unit. Press the ENTER key (or TARE). The ADE-MAK is now ready for weighing and changes to net mode [NET status indicator (5) is on].



The manual tare value must be >0, the maximum value is limited by the weighing range.

PRESET TARA adjusted:

Press and hold the PRESET TARE key (10) [approx. 3 sec.], **PRO PT X** appears on the display. Then you can select the memory location (e.g. 2). Now enter the TARE VALUE and confirm with ENTER.

Accessing the preset PRESET TARA value:

Press the PRESET TARE key (10). "Pt x" appears on the display. Enter a number from 0-9 (memory location for the tare value). If no number is entered within five seconds, the unit will change back to weight mode.

After entering the number, the ADE-MAK accesses the preset tare value, shows it for five seconds on the display and then changes to net mode. The accessed tare value is accepted at the same time.

Changing the preset PRESET TARA value:

Press the PRESET TARE key (10) for two seconds to change a preset tare value. **PRO PT X** will appear on the display.

Select a number from 0-9 (memory location for the tare value).

The ADE-MAK accesses the preset tare value at this memory location and shows it on the display. Enter the new value and press the ENTER key. The unit saves the new value at the selected memory location.

Displaying the gross weight, net weight and tare value:

Press the "0" key to change between displays for tare, gross weight (NET status indicator (5) off) and net weight (NET status indicator (5) on). If a tare value is saved, the net weight shown corresponds to the gross weight minus the tare value. If there is no tare value saved, the display remains in gross mode.

The tare value flashes briefly, then after a second the display changes to gross mode.

Hold function

Use the HOLD key to hold the display if there are weight fluctuations which e.g. are caused by patient movements on the scales. To do this, the scales must be at standstill, e.g. the standstill status indicator $\blacktriangle\blacktriangleleft$ (14) is on (depending on the setting it is not always necessary for the scales to be at standstill). The **Hold** status indicator (15) is on.

The fixed weight can still be read after the scales have been vacated.

Deactivate the HOLD function by pressing the key again.

Determining the Body Mass Index (BMI)

BMI is calculated by the relationship of body weight to height.

$$\text{BMI} = \frac{\text{body weight}}{(\text{height})^2}$$

You need the height of the test subject to determine the body mass index. This is most easily calculated with an ADE measuring rod model MZ10023 or 10032.

Start the scales and weigh the subject. Then press the BMI key (11) to start BMI mode. The last value entered appears on the display. Now you can use the numerical key pad to enter a new value for the height (in cm) or to retain the value displayed. Confirm the value entered with the ENTER key or delete it using the CLEAR key. After the entry has been confirmed by the ENTER key, the BMI value will be calculated using the weight on the scales. The display changes between weight value and BMI value "b xx.x" (every two seconds) for a period of 3 minutes. Press the BMI key (11) to cancel before this time has expired.

Evaluating Body Mass Index

BMI under 18

- An increase in weight is recommended.

BMI between 18 and 20

- The patient is borderline underweight. The patient feels well, there is no reason for complaint.

BMI between 20 and 25

- The patient is within the normal weight range.

BMI between 25 and 30

- The patient is moderately to slightly overweight. A reduction in weight is indicated if there are pre-existing illnesses (e.g. diabetes, high blood pressure, heart failure).

BMI over 30

- Weight loss is urgently recommended. Consultation with a specialist is advised.

Print out a record

The scales must be at standstill, e.g. standstill status display $\blacktriangle\blacktriangleleft$ (14) is on.

Press the ENTER key (13) to send the data to the serial interface.

Note: Printing is not possible if the net weight is 0.

The print function only produces one print-out. A reset is required to print out another copy.

BMI evaluation according to WHO			
BMI	< 16		Severely underweight
	16 - 17		Moderately underweight
	17 - 18.5		Slightly underweight
<hr/>			
BMI	18.5 - 25		Normal weight
<hr/>			
BMI	25 - 30		Overweight
	30 - 35		Obese Class I
	35 - 40		Obese Class II
	> 40		Obese Class III

Care, servicing and recalibration

Cleaning

Please disconnect the unit from the operating voltage before cleaning. Do not use any aggressive cleaning materials for cleaning; only use a damp cloth or conventional disinfectant.



Make sure that no liquids penetrate the unit!

Error messages

Error message	Description	Problem solution
888888	Overload display	Weight exceeds max. capacity of the scales.
888888	Overflow indicator (negative)	Negative weight indicated – weight too low to be displayed (<=99999).
888888	Overflow indicator (positive)	Positive weight indicated – weight too high to be displayed (>=999999).
AD LOW 888888	A/D above negative range	Check if the scales are correctly assembled or if they are damaged.
AD HI 888888	A/D above positive range	Check if the scales are correctly assembled or if they are damaged.
EE SUM 888888	Parameter or calibration error	Recalibrate – please contact your supplier or service partner:
EE WR 888888	EEPROM indicates an error	Please contact your supplier or service partner.
PM SUM 888888	Internal program indicates a check error	Please contact your supplier or service partner.
HOFSET 888888	Switch on – above zero	Please remove the weight from the scales and restart.
LOFSET 888888	Switch on – below zero	Check scales for damage and inform your service partner:
UOFSET 888888	Irregular	Do not touch the scales after they have been switched on.

Safety instructions

Hazard-free operation is no longer guaranteed

- if the power unit exhibits visible damage.
- if the power unit is no longer working.
- after longer periods of storage in damp rooms.

Inform your service partner in such cases for your own safety.



Any power units or batteries other than those supplied by the manufacturer may not be used. There is otherwise a risk of influencing other medical, electrical devices/equipment!

If the chair scales remain unused or the patient must wait while remaining seated in the chair scales, secure the unit by operating both brake locking devices on the rear wheels.

The connecting cable between the scales and power unit must be laid in such a way that they do not present a trip hazard.

Waste disposal



Used electrical equipment and batteries do not belong in the domestic waste. Please dispose of defective or used equipment and batteries according to the legal regulations applicable in your specific country!



Please make sure that only discharged batteries or batteries with insulated "poles" are disposed of as otherwise they may short-circuit!

Storage and transport conditions

Keep all packaging in case you need to return the item, in order to avoid any potential transport damage.

Disconnect all connected cables before dispatch. This is how you can avoid unnecessary damage.

Warranty

ADE will repair or replace this product if proof is shown that it has failed within 2 years of the purchase date (receipt is required) due to faulty work quality or defective materials. All removable parts, e.g. batteries, cables, power units, etc. are excluded from this. This warranty does not cover any normal, external appearance of use and wear or any damage occurring as a result of an accident or misuse. Any warranty or damage compensation claims presuppose the use of original ADE accessories and replacement parts. The warranty does not cover units that have been opened by unauthorised persons.

The legally regulated rights of the customer are in no way affected by this agreement.

The supplier who sold the scales is in charge of complaints, customer service and replacement parts.

Recalibration

Have recalibration carried out by an authorised company or authorised person according to national legislative regulations. The CE symbol shows the authorised site (0122) and the year of initial calibration. Recalibration must be carried out

- if the calibration mark has been damaged
- after calibrated scales have been successfully repaired
- or after expiry of a period for recalibration as stipulated by national, legal regulations.

Technical specifications

Power supply

Power Adapter:

Mains voltage	115 or 230VAC
Frequency	50 or 60HZ
Power Consumption	11W in-charger, 2W off-charger

Main power circuit

Input Voltage	5.0VDC
Max. Current (in-charger)	1000mA

Battery Requirement:

Rechargeable Lithium Ion Cylindrical (18650x2) Cell 3.7V
4000mAH

Battery Operation:

Charger	7~10 Hours
Saving (350ohm, Backlight-ON 30Sec, Shutdown 5Min)	200Hours

Serial Communications

EDP Port	Full duplex RS-232 38400, 19200, 9600, 4800, 2400, 1200 bps
Printer Port	Output-only RS-232 or active 20 mA current loop, 9600, 4800, 2400, 1200 bps
Both Ports	7 or 8 data bits; even, odd, or no parity

Operator Interface

Display	6-digit LCD display. 7-segment, 0.815 in (21.2 mm) digits net, center of zero, standstill, kg/lb/g/oz/ units, Battery, Set points, Hold, HI/OK/LO
LCD annunciator	
Keyboard	24-key flat membrane panel

Environmental

Operating Temperature	-10 to +40°C (legal);
Storage Temperature	-25 to +70°C
Humidity	0-95% relative humidity
Altitude	2000 m (6500 ft) maximum

Weighing station:

Max. Capacity:	300 kg / 660 lbs
Graduation:	100 g / 0.2 lb
Access to ramp:	41 mm
Dimensions:	1070 x 1050 x 70 mm
Total weight:	45 kg
Working Temperature:	10 to +40 degrees Celsius

Conformity declaration



Declaration of conformity by the manufacturer

This product has been manufactured in accordance with the harmonised European standards.
They conform to the regulations of the EC-directives listed below:

- NAWI Directive 2014/31/EC
 - Medical Devices Directive 93/42/EEC
 - EMC Directive 2014/30/EC
 - Low Voltage Directive 2014/35/EC
 - RoHS Directive 2011/65/EC
- in the currently valid versions.

This declaration loses its validity if modifications are made to the scale without our approval.

Hamburg, March 2021

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authorised dealer: