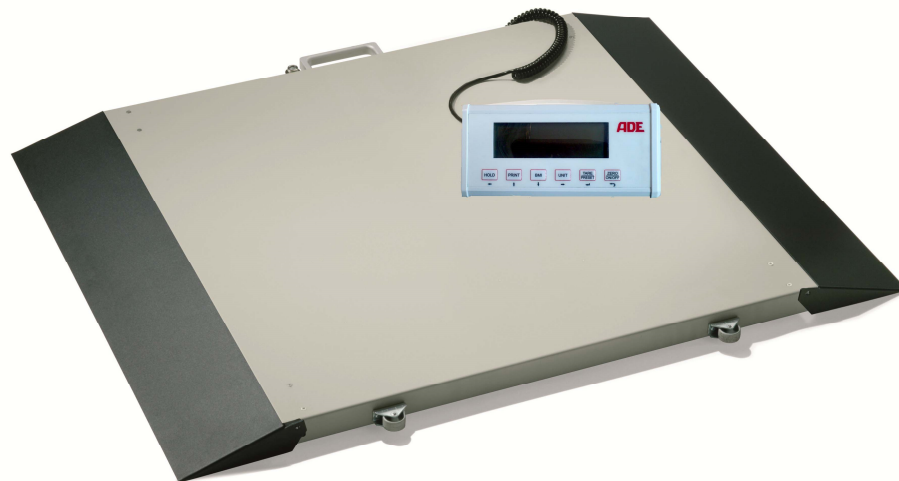


Operating Manual



Electronic Wheelchair and Multipurpose Scales



M500660

M500660-210326-Rev005-UM-e



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Introduction



Dieses Symbol bedeutet: „Gebrauchsanweisung beachten“. Um präzise Ergebnisse zu erzielen, lesen Sie die Gebrauchsanweisung sorgfältig durch und folgen Sie den darin enthaltenen Instruktionen. Bewahren Sie die Gebrauchsanweisung für späteres Nachschlagen auf.

Your ADE electronic wheelchair-scale is a quality, sturdy and durable product manufactured in accordance with national regulations in Germany. The scale is used to evaluate the weight of persons sitting in a wheelchair, able to walk on their own or by using any kind of walking aid or lying on an emergency litter. The scale could be used for adipose persons as well.

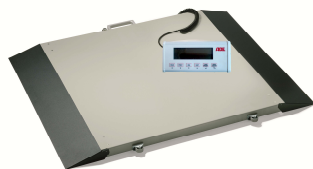
ADE instruction manuals have been prepared to provide the user with all the necessary knowledge about the safe use of ADE scales and their related accessory equipment.

For further questions about how to use the products or about this or other service manuals, feel free to contact your local ADE representative or visit our web page at www.ade-hamburg.de.

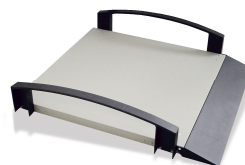
In order to achieve the best possible results kindly read and follow the operation manual in all respects. This operation instruction applies to the following models of electronic scales of the M500660-series with the different adaptations (see table 1). In order to achieve the best possible results kindly read and follow the

Multipurpose and wheelchair scales	
Configuration of the basic version M500660:	1 platform 800 x 800mm / M500660-C 1400 x 800 mm 1 ramp 1 eyelevel 1 mains adapter 1 indicator (display)
Reference number	Description of supplementary equipment to the standard version
M500660-01	1 foldable column
M500660-02	1 set of side boundaries

[table 1]



M500660



M500660-02

[picture 1]



[picture 2]

M500660-01



M500660-C

Equipment supplied

All wheelchair scales and multipurpose scales are being delivered in an already assembled condition with handrails, side boundaries or columns. The equipment supplied includes:

- 1) One indicator including the correspondent set of screws
- 2) One wall mounting device and one cable extension for model numbers: M500660
- 3) One mains adapter
- 4) Operation manual including declaration of conformity

Safety

The ADE-display unit corresponds to the latest state of the art technology and complies with standard regulations and directives. Kindly follow the safety instructions in this operating manual, the country-specific installation standards as well as the applicable safety conditions and accident prevention regulations in all aspects.

- Operate the scale only with the original ADE mains adapter.
- Always connect the mains adapter to the scale **BEFORE** connecting it to the electrical outlet
- Disconnect from the electrical outlet **BEFORE** disconnecting the adapter from the scale.
- In case the mains adapter became wet or show visible damages the scale can no longer be operated by using this mains adapter. In this case please contact your local dealer or service partner.
- The voltage and power supply as mentioned on the type plate must match the mains voltage and power type at the place of use.
- When using the scale with a mains unit ensure that the supply cable is routed in such a way as to exclude any type of potential trip hazard.
- Remove the mains plug before cleaning the unit.
- Do not operate the unit in hazardous or unstable conditions.
- Set up the unit as far away as possible from equipment that generates electromagnetic or other interference. Portable and mobile HF-communication systems may influence electronic medical devices
- All actions and operations described in this operation manual may only be carried out by professional personnel authorized by ADE or official appointed dealers.

Assembly and set up

The ADE wheelchair scale is already been delivered in a fully assembled condition. Please insure that your scale is being placed free of any vibration and at a dry place.

The indicator/ display of your ADE scale is able to be mounted on walls, on sockets, handrails or on stand-on devices for the table depending on the model you have selected. Please insure that your scale is being placed free of any vibration and at a dry place. Take the indicator and the cable extension out of the packaging and follow the instruction for assembly.

Alignment of the scale

- 1) Place the scale on a plain, dry and level surface.
- 2) Undo the locknuts of the four feet of the scale and unscrew them until they got contact to the surface.
- 3) The air bubble in the spirit level must be right in the centre of the circle.
- 4) Please ensure that the scale has no other contact to the floor than by the four feet.
- 4) For the model with the Reference M500660-01 with a foldable column:
 - a) Release the handle (pic 4a) at the bottom of the column or the handrail.
 - b) Upright the column or the handrail.
 - c) Finally re-tighten the handle (pic 4b) at the bottom of the column or the handrail again.



Please ensure that the foldable handrail and column of the scale is fixed and stable in order to avoid any unexpected moving of same. After transport or movement of the scale follow step 1 to 4 again.

Power supply

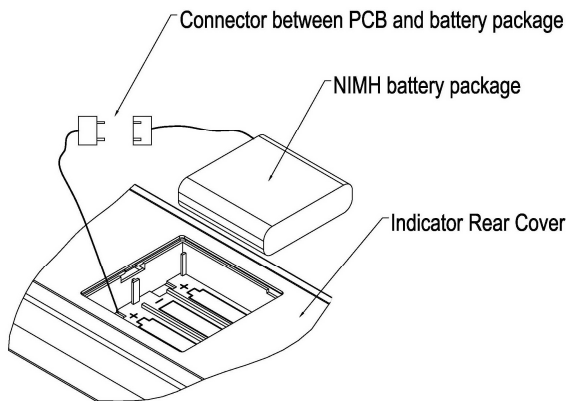
Power is supplied either by the rechargeable battery in the display unit or by the mains power via the supplied power unit. The rechargeable battery pack is consisting of 4xAA NIMH rechargeable batteries.

Use the AC adapter to load the rechargeable batteries. The imprinted voltage value at the mains adapter must match the local mains voltage. When the battery is being charged for the first time a sufficient charging period of approx. 24 hours is necessary to achieve a full battery load.

The wall socket must be located near to the unit and be easily accessible. Please use only the mains adapter supplied by ADE. The mains adapter is charging the battery pack at the same time.

Replacing the rechargeable battery

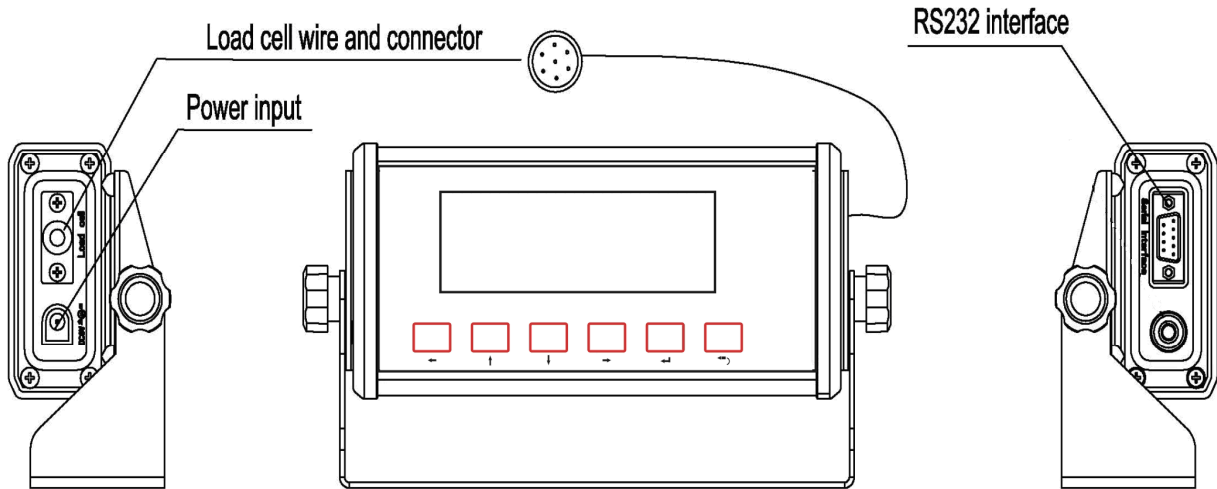
The battery compartment is located at the back of the display



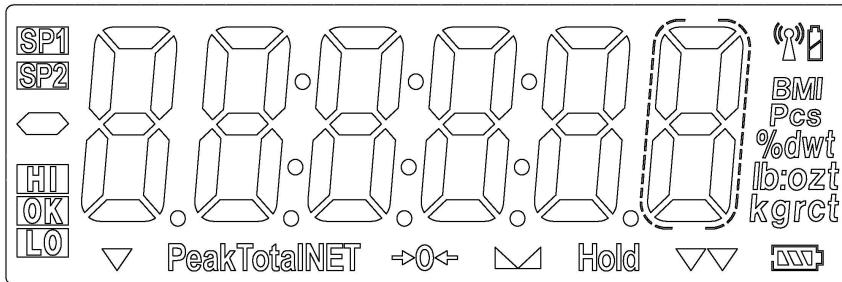
- 1) Open the battery compartment.
- 2) Remove the battery cables carefully from the housing, connect the wires and insert the battery into the housing.
- 3) Close the battery compartment again.

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

Front View and side view of the display



Display Description



Name	Description
	Status indicator for the current battery charge level. When this symbol appears is the scale in battery operation mode or will be charged.
→0←	The scale is within the zero level.
Standstill status indicator (14) ▲▲:	The scale is at a standstill, meaning the weight is stable and no movement is on the platform. This is a mandatory precondition for functions such as resetting, printing and taring). In case the LCD is not displayed is the scale not in the standstill mode
“Hold”	Displayed when the hold function is activated.
“lb”	Displayed when the weighing unit is displayed in pounds.
“kg”	Displayed when the weight is displayed in kilograms.

Key pad



Name	Description
HOLD	Activates the Hold-Function.
PRINT	Output of data to serial communication port RS 232.
BMI	Enter, after the user steps on the scale, in order to proceed with the BMI mode.
UNIT	Switch button between primary kgs and secondary units Lbs.
TARE PRESET	Activates the tare function and the Preset Tare Function.
ZERO ON/OFF	Switch the scale on/off and activates the zero function.
←	During key operation use this key to switch between the units.
→	During key operation use this key to switch between the units.
↓	During key operation use this key to switch between the numbers downwards.
↑	During key operation use this key to switch between the numbers upwards.
↵	Enter button to confirm the value.

Weighing

Correct weighing

- Press the start key **ON/OFF** to enter the normal operating mode of the scale with no load on the platform. An automatic function test will be performed and the zero setting of the scale. When `0.0` appears you are in the kg weighing mode. Additionally the display shows the symbol `→0←` to confirm stability of the zero setting.
- The scale is now ready to be used.
- Place the person to be weighed on the wheelchair and ensure that he is not moving.
- The weight could be only determined when there is no contact of the feet to the floor. For this reason ensure that the person's feet rest on the footrest.
- After the weight is being displayed and the symbol `→0←` appears the utmost accuracy has been achieved.
- To turn off the scale press **ON/OFF** for a period of minimum 3 seconds. Using the scale on mains it may remain permanently switched on or can be shut off manually by pressing key.

How to change the unit

The scale offers the possibility to select between the weighing mode kg and lb. To change into another mode press the **UNIT** key. Please check weighing mode after switching on to get proper result.

Tare function

The tare function allows ignoring a fixed weight (e.g. clothes) that will be deducted after each weighing procedure. Proceed as follows:

- Press the start key with no load on the scale.
- Place the additional weight of the object(s), which needs to be ignored, on the scale and store the result by pressing the **TARE** key.
- The display is being reset to zero. The scale is now in NET weighing mode which is also indicated on the display.
- Remove now the objects from the platform. The ignored weight is being displayed with a minus.
- Place the person to be weighed and the additional weight (e.g. clothes) on the scale.
- The scale determines the weight of the person without the additional weight. You may now use the scale for as many weighing procedures and the stored value will always be deducted as long as the scale is not turned off.
- Enter the tare button again to get of the tare mode.
- The tare value is likewise erased by the scale until pressing the tare button or being switched off.

Weighing with preset tare values

To input a pre set tare value press down the tare button more than 3 seconds. NET will appear at the screen. Follow the same steps as before and place a load on the platform. The last stored tare value will appear at the display and ignored by the scale.

HOLD function

The Hold function is being used if you like to hold the results at the display after the weight/load has been removed from the scale. Use this button to take care of the person to be weighed first and then note the weight.

- Press **HOLD** key while scale is under load.
- "HOLD" is being displayed at the screen.
- The weight remains saved in the display after unloading the scale.
- For deactivation of the Hold function press again the **HOLD** key.

BMI (Body Mass Index)

The Body Mass Index is the ratio between height and weight squared. The BMI is accepted world wide – also by WHO (World Health Organization) - helping to evaluate the state of nutrition and with that value also the state of health of a person. The result is a tolerance value.

- Start the scale by entering the ON/OFF Button. The scale is automatically being set to zero.
- Help the person to be weighed onto the platform.
- Take care that the feet are being rested on the footrest.
- Wait until the weight is being displayed in a stable condition and →0← appears on the screen.
- Press the **BMI** key shortly.
- The scale starts automatically with the last input. Use the arrow buttons to enter the height of the person to be weighed. ↑ ↓ ← → Confirm the height with the enter button ↵.
- The BMI is now being displayed at the indicator.
- To correct the given height press the BMI button once again and the display returns to the height mode.
- To get back into normal weighing mode and leave the BMI modus press the tare button.

Evaluation of the Body Mass Index

Compare the determined value which corresponds to those being used by the WHO.

BMI below 18,5

- The person is under the regular standard and does not got enough weight. An increase of weight is recommended. Please consult a professional.

BMI between 18,5 and 24,9

- The person got a normal weight. If he feels well there is no need for a change.

BMI between 25 and 30

- The person is slightly overweighed to pre-obese. A reduction of weight is indicated or, is necessary if the state of health is already affected (e.g. diabetes, high end blood pressure, heart diseases).


BMI over 30

- Reduction of weight is imperative. To visit a doctor is highly recommended.

Connecting additional devices

Connection of printer, PC or remote-display will be done with the RS-232 interface. For connection of additional devices kindly ask your local representative or authorized ADE dealer for further instructions.

Print out a record

The scales must be at standstill. The standstill status symbol  must appear at the screen. Press the ENTER key 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.

Error Messages

Error Codes	Description	Solution
<i>Ad</i> ----- <i>Ad</i> -----	Load cell wires to indicator are incorrectly connected; or shorted, or opened; or ADC/ load cell are being damaged	Make sure wires are in good order and condition and correctly connected. Replace load cell or ADC chip. Service is required.
<i>0</i> ----- <i>0</i> -----	Weight reading exceeds the zero limit after switching the scale on.	Make sure scale platform is empty.
	Weight reading is below the zero limit after switching the scale on.	Install platform on scale. Otherwise the zero calibration/ adjustment have to be done by authorized personnel.
-----	Weight reading exceeds load limit.	Reduce load on scale until weight value can be displayed.
-----	Weight reading below load limit.	Service by authorized personnel required.
<i>EEPE I</i>	Configuration or Calibration parameters are not correctly set.	Contact your local dealer / supplier for calibration purpose.
<i>CAPEr</i>	Capacity parameters are not correct.	Contact your local dealer / supplier for a new set-up.
<i>CALEr</i>	Calibration error. The incoming signal of loaded weight is too small, too big, unstable or un-linear.	Contact your local dealer / supplier for a new set-up.
Not turn on.	Power cord is not properly connected. Power outlet not supplying electricity. Batterie is discharged. Other failure.	Check power cord connections. Make sure power cord is plugged into the power outlet. Check power source. Replace batteries.
Cannot zero the display or will not zero when turned on.	Load on scale exceeds allowable limits. Load on scale is not stable. Load cell damage.	Remove load from the scale. Wait for load to become stable. Service required.

No Battery symbol or display of Lo.bAt	Batteries are discharged.	Charge batteries.
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Cleaning and Maintenance

Cleaning

Before cleaning disconnect the scale from the socket. For cleaning just use a damp cloth or common disinfection fluids. Do not use any aggressive cleaning fluids, abrasive or acid cleaners or white spirits. During the process of cleaning take care that no water or cleaning fluids are penetrating the scale.

Safety information

Safe operation is no longer guaranteed

- If the adapter shows visible signs of damage
- If the adapter no longer functions
- After extended storage in humid areas

In these cases, contact your service partner for your own safety!



Never use other adapters and batteries than those provided with the device by the manufacturer. Otherwise there is a risk of interference with other electric medical devices!

Disposal



Electrical appliances and batteries should not be disposed of in domestic refuse.



Always dispose of defective or unserviceable devices and batteries in accordance with the applicable laws and regulations!



Please ensure batteries are empty prior to disposal, since otherwise there is a risk of short circuit!

Storage and Transport

Please keep all original parts and pieces for an eventual sending back of the scale

in order to avoid any possible damage during transport, which automatically leads to non warranty.

Disconnect all cables before transport and avoid unnecessary damages.

Warranty – Liability

ADE will repair or replace this product within a period of 2 years from date of delivery applying to defects occurred due to poor material or workmanship (presentation of invoice is necessary). All moveable parts – batteries, cables, mains units, rechargeable batteries etc. – are excluded. Warranty does not include natural wear, damages caused by incorrect or negligent handling, overuse or unsuitable or improper storage. The cost of transport will be borne by the customer should the equipment be located anywhere other than the customer's premises. In the event of transport damage, claims under warranty can be accepted subject to using the complete original packaging and the equipment secured the way it was packed and secured originally. All the packaging should therefore be retained.

Any warranty claim will be rejected if the equipment is opened by persons not authorized expressly by ADE to do so.

Customers abroad are kindly requested to contact their local dealer for any warranty claim, customer service and spare parts.

Technical specifications

Power supply

Mains Adapter:	AC Adapter: 6-9V DC, ≥500mA, central negative
Battery Requirement:	Rechargeable Lithium Ion Cylindrical (18650x2) Cell 3.7V 4000mAH

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

Environmental

Operating Temperature	-10 to +40°C (legal);
Storage Temperature	-20 to +70°C
Humidity	0-90% relative humidity
Altitude	2000 m (6500 ft) maximum

Housing

Dimensions	18.6 cm x 9.5 cm x 10 cm
Weight	0.4 kg (without battery)
Material	ABS plastic, white



Declaration of conformity by the manufacturer

This product has been manufactured in accordance with the harmonized European standards.

They conform to the regulations of the EC-directives listed below:

- EMC Directive 2014/30/EU
 - Low Voltage Directive 2014/35/EU
 - RoHS Directive 2011/65/EU
- 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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