



*Adam Equipment*

# **MCB SERIES MEDICAL SCALE**

**MCB 300 and MCB 400  
Wheelchair and Bed Scales**

Software Per 4

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## **INTRODUCTION**

The MCB 300 and MCB 400 scales are designed for weighing wheel chairs and beds. They have a capacity of 300kg / 400kg and readability of 0.1kg. They are fast, accurate and simple to use.

Main features of the scale are:

The scale is very simple to use.

It has the ability to run from internal AAA alkaline batteries or an external power supply.

HOLD function to lock the display until the operator releases it.

Automatic turn off to maximise battery life.

Filters optimised for weighing people.

## **ASSEMBLY INSTRUCTIONS**

The MCB 300/400 comes with the 2 beams that the wheelchair or bed can be rolled up and a separate indicator module. Cables connect the beams to the indicator.

The indicator could be mounted to the wall or used on a table top. Brackets are available for wall mounting the indicator.

Connect the cables to the indicator. The cables must be secure for proper operation.

### **POWER SUPPLY**

If the external power supply is used, plug it into the jack on the indicator. If batteries are used install them before mounting the indicator in the pillar.

## OPERATOR'S INSTRUCTIONS

### Key description

<b>ON / OFF</b>	- Turns the scale on or off,
<b>F</b>	- set functions
<b>PRINT/HOLD</b>	- To hold display value or initiate the RS-232 transmission (if included).
<b>TARE</b>	- Set the display to zero by storing the current weight in the tare memory
<b>ZERO</b>	- Sets a zero condition when the platform is empty

To weigh on the scale turn the scale on using the **ON/OFF** key. After the display is at zero place an item to be weighed on the platform. The display will show the weight . The unit will be shown in kilograms.

To zero the display press the **TARE** key.

In practice the beams are placed on the floor and an empty wheelchair or bed is rolled onto the beams. The TARE key is pressed to zero the display.

If necessary remove the wheelchair used to zero the display and then roll the wheelchair with the person to be weighed onto the beams. The display will show the weight of the person in the wheelchair without the added weight of the wheelchair.

Likewise the bed weight will be tared without the person in the bed and then when the weight of the person is added, only that weight will be shown.

<b>DISPLAY SYMBOLS</b>	
<b>Symbol</b>	<b>Description</b>
ZERO	scale in auto zero range (indication = accurate zero)
STAB	result is stable
kg (g)	scale in weighing mode
BAT-LO	battery is weak, after 5 minutes the scale will turn off
▶	Scale in HOLD mode

### HOLD FUNCTION

If the HOLD function has been enabled (see below) the display will hold the value until the user presses the **PRINT/HOLD** key or **ZERO** key or **TARE** key. The HOLD function operates in 2 ways when enabled.

1> The hold function will lock the displayed value when the user presses HOLD. The value will continue to be shown until HOLD is pressed a second time or the scale is zeroed or tared.

2> The HOLD function will operate automatically when the weight is stable. The user can unlock the display by pressing the **PRINT/HOLD** key, or zeroing or taring the scale.

## FUNCTIONS

To change functions press the **F** key. The functions that are available can be cycled through by pressing the **F** key. Not all functions may be enabled. To use any of the functions see the corresponding section of the manual.

If you continue to press the **F** key you will eventually be returned to weighing.

<i>Functions Available</i>		
	<i>Function</i>	<i>Description</i>
1.	<b>AUE</b>	Change Averaging of weighing result
2.	<b>HOLd</b>	Controls the Hold function
3.	<b>t1</b>	Enable/disable the automatic turn off after a period of not being used
4.	<b>Uni</b>	Changes weighing units from kgs to Lbs
5.	<b>bL</b>	Controls the LCD backlight if it is installed

When the function is a simple enable or disable then it is only necessary to select the function using the **F** key, then press **PRINT/HOLD** to view the current setting. Pressing **PRINT/HOLD** again will change the setting to the next value. Pressing **F** again will return to normal weighing.

### **AVE = DISPLAY AVERAGING RATE**

Select the required averaging for the display update.

Press the **F** key until AVE is displayed. Press **PRINT/HOLD** to select the desired value. Press the **F** key to return to weighing.

- AVE 1 = Fastest display rate.
- AVE 4 = Slowest display rate for uses such as an unsteady weighing or unstable environment.

### **HOLd = SET METHOD OF DISPLAY HOLD**

The scale has 3 options for the HOLD function. Press the **PRINT/HOLD** key to change from HOLd = 0, HOLd =1 to HOLd =2.

Press The **F** key to set this option and return to weighing.

- HOLd= 0 Hold function is disabled.
- HOLd= 1 The display will be locked when the **PRINT/HOLD** key is pressed. The display will return to normal weighing when the **PRINT/HOLD** key is pressed a second time or when the display is zeroed or tared with no weight on the scale.
- HOLd= 2 The display will be locked automatically when the weight is stable The display will return to normal weighing only when the display is zeroed or tared with no weight on the scale.

### **T1 = AUTOMATIC POWER SWITCH OFF**

The scale includes an internal battery. The typical operation time using only the battery is 12 hours. The scale includes the T1 function to turn the power off after 5 minutes if it is not being used. This function can be disabled if the balance is powered from the mains power supply or if the disruption of the power might effect the weighing procedure.

To set the parameter press the **F** key to show T1

Press **PRINT/HOLD** to see the parameter.

Press **PRINT/HOLD** to select either T1 = 0 or T1 = 1.

T1 = 0 Automatic switch off is enabled.

T1 = 1 Automatic switch off is disabled.

Press the **F** key to return to weighing.

### **Uni = WEIGHING UNITS SELECTION.**

This function allows the weighing units to be changed from Kilos to Pounds and back even when to scale is loaded.

To set the parameter press the **F** key to show uni

Press **PRINT/HOLD** to see the parameter.

Press **PRINT/HOLD** to select either uni = 1 or uni = 2.

Uni = 1 Weighing in Kgs

Uni = 2 Weighing in Lbs.

Press the **F** key to return to weighing.

### **bL = AUTOMATIC BACKLIGHT CONTROL**

This function may not be shown if the scale does not have a backlight.

If the scale includes a backlight it can be either enabled or disabled.

To set the parameter press the **F** key to show "bL"

Press **PRINT/HOLD** to see the parameter.

Press **PRINT/HOLD** to select either "bL"= 0 or "bL"= 1.

"bL"= 0 Backlight is enabled.

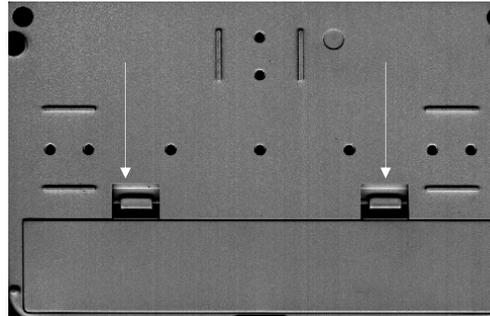
"bL"= 1 Backlight is disabled.

Press the **F** key to return to weighing.

## POWER SUPPLY

Power can be supplied by mains adapters delivering a regulated 6 to 9VDC 100 mA , or using batteries inside of scale's head (6 x AA Size) or by an external 6V lead acid battery. Internal batteries and external lead acid batteries are not standard equipment.

**CAUTION:** DO NOT use external power supplies and internal batteries together, damage to the batteries may result.. If the batteries are low on charge **BAT – LO** will be displayed. The scale will be automatically switch off after 5 min. The batteries should be replaced by new ones.



6 x AA size

If an external 6V lead acid battery is used it will be necessary to use a charger compatible with the battery. Contact your supplier for more information.

Typical Battery Life is 12 hours.

## CALIBRATION

To prevent unauthorised calibration the Calibration Procedure can be performed after entering a code number. It is the last function displayed at the end of the service parameters ( code 1948 )

### PROCEDURE

Zero the balance with no weight on the pan.

Press **TARE** then within 2 seconds press **TARE** and **ZERO** together.

The display will show , "code" then , "000000".

Press **TARE** to move the flashing digit to the right and **PRINT/HOLD** to increment the digit until the display reads , "001948" then press **F**.

The first service parameter will now be displayed. To change any parameter press **PRINT/HOLD**, to step to the next parameter press **F**.

Con = Stability time, Min 1 – Max 9. Typical value Con=3

dIS = Display update rate, Min 1 – Max 9. . Typical value dIS=3

Zon = Zero tracking range, Typical value is 0.13kg

Uni = Weight display Units, Kg -1, lb - 2. Normally set to kilograms.

Now the raw A-D counts are displayed. Press **TARE**, display shows "cALibr".

Press **F** to skip calibration or

Press **PRINT/HOLD** to enter the calibration program.

"no CAL" will be displayed initially, when "LOAD" is displayed place the calibration weight on the centre of the pan. The balance will tell you the value of the calibration weight to be used.

MCB 300, use 300kg

MCB 400, use 400kg

Even if the scale is set to display in pounds the weights shown above should be used for calibration.

Press the **PRINT/HOLD** key. "CAL" will be displayed initially, then when UNLOAD is displayed remove the calibration weight.

The display will now show "cALu 0" press the **F**, then the display will show "bL u 0". If the scale has a backlight set "bL u=0" otherwise set "bL u=1" by pressing the **PRINT/HOLD** key. Press the **F** key to return to normal weighing.

**Note: The only permissible calibration weight is the value shown on the display immediately after "LOAD". To calibrate using any other weight the initial parameters will need to be reprogrammed using the AE106 service manual.**





### **Manufacturer's Declaration of Conformity**

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

Electro Magnetic Compatibility Directive 89/336/EEC

Low Voltage Directive 73/23/EEC

Adam Equipment Co. Ltd.  
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### **FCC COMPLIANCE**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded interconnect cables must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device.

Changes or modifications not expressly approved by Adam Equipment could void the user's authority to operate the equipment.



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**ADAM EQUIPMENT's** products are predominantly designed for the laboratory, educational, medical and industrial markets.

The product range can be summarised as follows:

- Analytical and Precision laboratory balances
- Basic range of top loading balances for schools and educational establishments
- Counting scales for general industrial and warehouse applications
- Digital weighing/check-weighing scales
- High performance platform scales with extensive software facilities including parts counting, percent weighing etc.
- Digital electronic scales for medical use
- Retail price computing scales

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**ADAM EQUIPMENT** operates an approved quality management system and is certified to ISO9002.

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