



EHC-W (52WX78B - 52WX81B)

USER MANUAL



Contents subject to change without notice

Version 1.0
01/2023

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1. INTRODUCTION

1.1 General and Safety Information



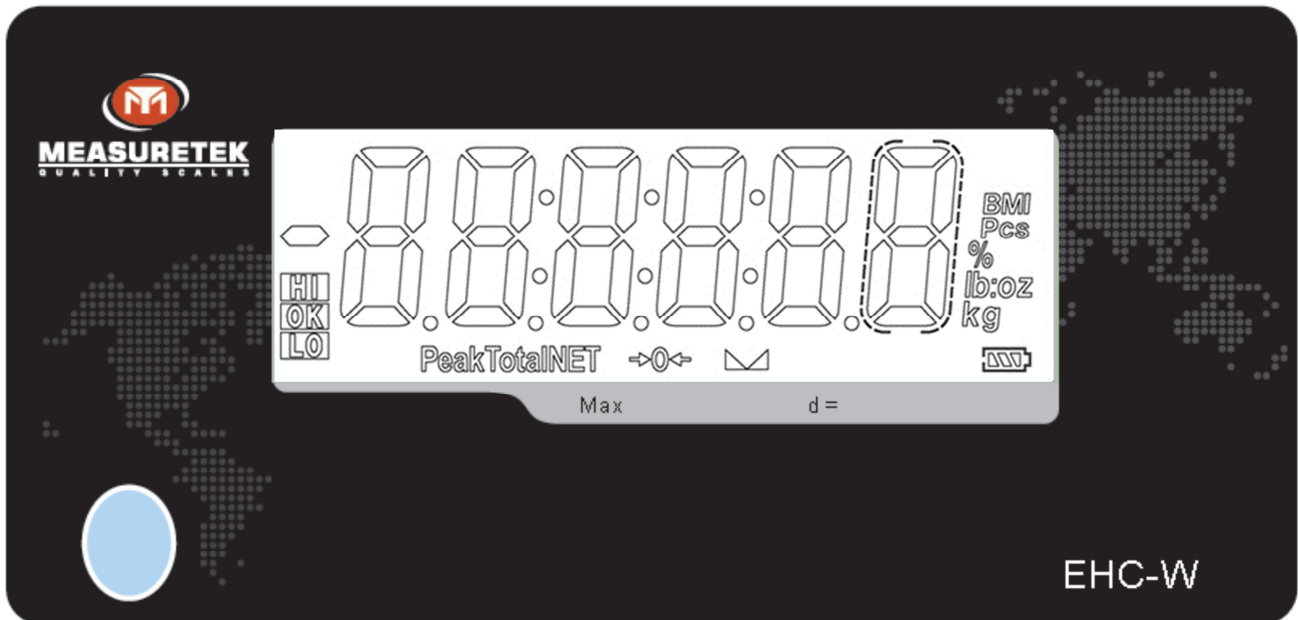
- For use in dry environments only.
- This product uses a Lead-Acid battery. Dispose of according to local laws and regulations.
- Read and understand all operating instructions before using this product. Keep this manual for future reference.
- Allow sufficient warm up time. Turn the scale on and allow up to 10 minutes for internal components to stabilize before weighing.
- Record the weight shortly after placing a load on the platter. Leaving loads in place for extended periods may vary the load cell's output signature and may result in a less accurate reading.
- Avoid extended exposure to extreme heat or cold. Optimum operation is at normal room temperature. See operating temperature range in the specifications table. Allow the scale to acclimate to room temperature before using.
- When storing the scale for extended periods, the battery must be charged every 90 days to avoid premature performance degradation. Over time, the operating time per charge will degrade. If the operating time is no longer acceptable even after recharging, the battery must be replaced.
- Electronic scales are precision instruments. Do not operate near cell phones, radios, computers or other electronic devices that emit radio frequencies that may cause unstable readings.




1.2 Specifications

Model	52WX78B EHC-W-3	52WX79B EHC-W-6	52WX80B EHC-W-15	52WX81B EHC-W-30
Max. Capacity	6 lb (3 kg)	12 lb (6 kg)	30 lb (15 kg)	60 lb (30 kg)
Readability	0.0002 lb (0.1 g)	0.0005 lb (0.2 g)	0.001 lb (0.5 g)	0.002 lb (1 g)
Display Resolution	1:30000	1:30000	1:30000	1:30000
Min. Recommended Weight	0.004 lb (2 g)	0.01 lb (4 g)	0.02 lb (10 g)	0.04 lb (20 g)
Min. Sample Weight 1%FS	30g	60g	150g	300g
Weighing Units	g / kg / lb / oz			
Calibration Unit	kg / lb			
Modes	Weighing, counting, check weighing, % weighing, accumulation			
Weight Display	1-Window backlit LCD display, 1 inch high, 6 1/2 digits, 7-segment			
Zero Range	Power-on zero range: calibration zero point $\pm 10\%$ FS; ZERO key range: power-on zero $\pm 5\%$ FS			
Tare Range	Full capacity			
Stabilization Time	<5 seconds			
Operating Temperature	14° to 105°F (-10° to 40°C)			
Humidity Range	<90% relative humidity, non-condensing			
Power Supply	Acid battery or AC power adapter (12Vdc/500mA with central positive)			
Battery Performance	80-hour continuous use with 12-hour recharge time (with backlit OFF)			
External Interface	RS232			
Safe Overload Capacity	150% of capacity			
Platter Dimensions	11.4" x 8.7" (290 x 220 mm)			
Scale Dimensions (L x W x H)	13.5" x 11.6" x 4.5" (294 x 342 x 115 mm)			

2. OVERVIEW OF CONTROLS AND FUNCTIONS













2.1 Front Display











-  - Scale is zeroed, gross weight is 0, tare is 0.
-  - Scale is stable.
- **NET** - Display reading is net weight; tare is not 0.
- **Total** - Display data is total number of accumulations, weight, pieces, or percentage.
- **lb** - Measuring unit is lb or lb:oz
- **oz** - Measuring unit is oz or lb:oz
- **kg** - Measuring unit is kg
- **g** - Measuring unit is g
- **%** - Measuring unit is % (in percentage weighing mode).
- **Pcs** - Measuring unit is pieces (in counting mode).
- **HI** - Check-weighing is enabled. Current data is above the specified upper limit.
- **OK** - Check-weighing is enabled. Current data is between the specified upper and lower limits.
- **LO** - Check-weighing is enabled. Current data is below the specified lower limits.
-  - Battery level.

2.2 Control Functions



 ~ 	Enters a number in counting and checking weighing modes and calibration
	Clears the input number or accumulated value
	Performs a tare operation Confirms the operation or entered data
	Sets zero if the scale is on
	Adds the value to the accumulation memory Recalls the accumulated total value (<i>Long press</i>)
	Changes unit of measurement between kg, g, lb and oz
	Outputs data via RS232 port
	Enters check weighing mode, set Hi and Lo values
	Enters percentage weighing mode Displays unit weight(g/pcs), total weight(kg) or count(pcs) in counting mode
	Enters into counting mode Exits the current working mode and return to normal weighing mode
	Turns the scale on / Turns the scale off (<i>Long press</i>) Exits setup, calibration or other modes

 + 	Enters calibration mode
 + 	Enters LCD and key test mode
 + 	Enters parameter setting mode
 + 	Checks inner code and voltage

3. OPERATIONS

3.1 Turning Scale On/Off and Weighing

Place the scale on a flat, stable surface. Level the scale using the leveling bubble at the lower left side of the display.

With the weighing platter empty, turn on power switch (located underneath on the left-hand side of the scale). Press the **ESC/ON/OFF** key to power on the scale. The self-check will run and the scale will display a zero reading.

When the scale displays 0, place objects at the center of the platform and read the weight.

To power off the scale, press and hold the **ESC/ON/OFF** key.

3.2 Zero Operation

You can press the **ZERO** key at any time to set the zero point from which all other weighing and counting is measured, within $\pm 5\%$ of power up zero. This will usually only be necessary when the platform is empty. When the zero point is obtained, the display will show the indicator for zero.

3.3 Tare

Place a container on the platform, a value for its weight will be displayed.

Press the **TARE** key to tare the scale. The weight displayed is stored as the tare value and that value is subtracted from the display, leaving zero on the display. The "NET" indicator will be on. As product is added, only the weight of the product will be shown. The scale could be tared a second time if another type of product is added to the first one. Again only the weight added after taring will be displayed.

When the container is removed, a negative value will be shown. If the scale is just before removing the container, this value is the gross weight of the container plus all products removed.

3.4 Change Unit of Measurement

In normal weighing mode, press the **Unit** key to switching the measuring units between kg, g, lb and oz.

3.5 Check Weighing

Use this mode to determine if the weight of a sample is within prescribed limits. Check weighing works in normal weighing, percentage weighing and counting mode.

Press the **LIMIT** key. The display will show “ $\overline{L} \overline{O} \overline{P}$ ”, and then “ $\overline{U} \overline{N} \overline{I} \overline{T} \overline{E} \overline{G}$ ”. Use unit key to choose the measuring units you need. Press Tare key to confirm.

The display will show “ $\overline{H} \overline{I} \overline{G} \overline{H}$ ” and then display 0. User 0-9 keys to input the value, press the **TARE** key to confirm. If you want to reset the value to zero, press the **C** key to clear the value.

After pressing the **TARE** key, the display will then show “ $\overline{L} \overline{O} \overline{L}$ ” and then 0. Enter the low limit in the same way the high limit was entered.

After pressing the **TARE** key, the scale will return to weighing with the Check weighing function enabled. When a weight is placed on the scale, the HI/OK/LO symbol will be shown if the weight is above or below the limits and the beeper will sound as described below.

Both limits set

The display will show OK and the beeper will sound when the weight is between the limits.

Low limit set, High limit set to zero

The display will show “OK” and the beeper will sound when the weight is less than the Low Limit. When above the Low Limit the display will show “HI” and the beeper will be off.

High limit set, Low limit set to zero

The display will show “LO” and the beeper will be off when the weight is less than the High Limit. When above the High Limit the display will show “OK” and the beeper will be on.

Both limits set. LOW is set greater than HIGH

The beeper will never sound and the display will show “LO” if the weight is less than the LOW limit, and “HI” if the weight is greater than the Low Limit.

NOTE:

The weight must be greater than 20 scale divisions for the check weighing mode to work.

To disable the Check-Weighing function, enter zero into both limits by pressing the **C** key when the current limits are shown. Then press the **TARE** key to store the zero values.

3.6 Counting

Before the start of counting, tare the weight of any container that will be used, leaving the empty container on the scale.

Place the samples on the scale, press the **FUNC** key to begin. The scale will show “ $\overline{S} \overline{P} \overline{L} \overline{.} \overline{---}$ ”, use 0-9 keys to input the samples quantity, press the **TARE** key to confirm. If you want to reset the value, press the **C** key to clear the value.

Now put more weight on the scale, the display will show the number of parts(pcs).

Press the **%** key to display unit weight (g/pcs), total weight (kg) or the count(pcs).

Press the **FUNC** key to return to normal weighing.

NOTE: Sample piece weight should not be less than 0.5d; otherwise, the scale will display “*LoPLU*”, then return to normal weighing mode in 2s.

3.7 Percent Weighing

The scale will allow a sample weight to be shown as 1% - 100%. Then any other weight placed on the scale will be displayed as a percentage of the original sample.

Put a sample on the scale, press the **%** key to enter percentage weighing mode, the display will show “SPL.100%”.

Press the 0 key to set to 1%, display shows “ <i>SPL.001</i> ”	(sample weight must be > 50d)
Press the 1 key to set to 2%, display shows “ <i>SPL.002</i> ”	(sample weight must be > 100d)
Press the 2 key to set to 5%, display shows “ <i>SPL.005</i> ”	(sample weight must be > 250d)
Press the 3 key to set to 10%, display shows “ <i>SPL.010</i> ”	(sample weight must be > 500d)
Press the 4 key to set to 20%, display shows “ <i>SPL.020</i> ”	(sample weight must be > 1000d)
Press the 5 key to set to 50%, display shows “ <i>SPL.050</i> ”	(sample weight must be > 2500d)
Press the 6 key to set to 100%, display shows “ <i>SPL.100</i> ”	(sample weight must be > 5000d)

Press the **Tare** key to confirm. Remove the sample, and put another weight on the scale, it will display the percentage of the original sample.

For example, if 6kg is placed on the scale and the **%** key is pressed, the display will show 100.00%. Press the **Tare** key.

Remove the 6kg weight and put a 3kg weight on the scale, then the display will show 50% as 3kg is 50% of 6kg.

Pressing the **FUNC** key will return the scale to normal weighing mode.

3.8 Accumulation

Accumulation can be used in both weighing and counting modes. The default setting is Manual Accumulation in this scale.

3.8.1 Manual Accumulation

When the scale is set to manual accumulation, the weight displayed will be stored in memory when the **ACCU** key is pressed and the weight is stable.

The display will show “*ACC001*” and then the total in memory for 2 seconds before returning to normal.

Remove the weight, allowing the scale to return to zero and put a second weight on. Press the **ACCU** key, the display will show “*ACC002*” and then show the new total.

Continue until all weights have been added.

To view the totals in memory, press the **ACCU** key when the scale is at zero. The display will show the total number of items “*ACCxxx*” and then the total weight before returning to zero.

NOTE: In all cases the scale must return to zero or a negative number before another sample can be added to the memory. More products can then be added and the **ACCU** pressed again. This can continue for up to 99 entries, or until the capacity weight display is exceeded.

3.8.2 Automatic Accumulation

When the scale has been set to Automatic Accumulation, the value is stored in memory automatically.

Put a weight onto the scale, the beeper will sound when the scale is stable to signify the value is accepted, Remove the weight, 2 seconds later the “total” symbol will be on. The scale will show “*ACC 0.1*”, then display the total value. Then “total” symbol will be off after 2s and back to weighing mode.

Remove the weight, and add a second weight on the scale, repeat the process.

The totals can be viewed as above.

3.9 Auto-off Timer

Use this mode to reset the automatic shut off time, from 0 - 30 minutes. The default auto-off time is 5 minutes.

In normal weighing mode, press the **ESC/ON/OFF** and **2** keys until the scale displays “*SETUP*”, then displays “*Auto xx*”.

Use the **0** - **9** keys to input the time from 0 to 30, press the **TARE** key to confirm. Press the **ESC/ON/OFF** key to return to normal weighing mode.

NOTE: If a number more than 30 is input, the display will remain unchanged after pressing the **TARE** key.

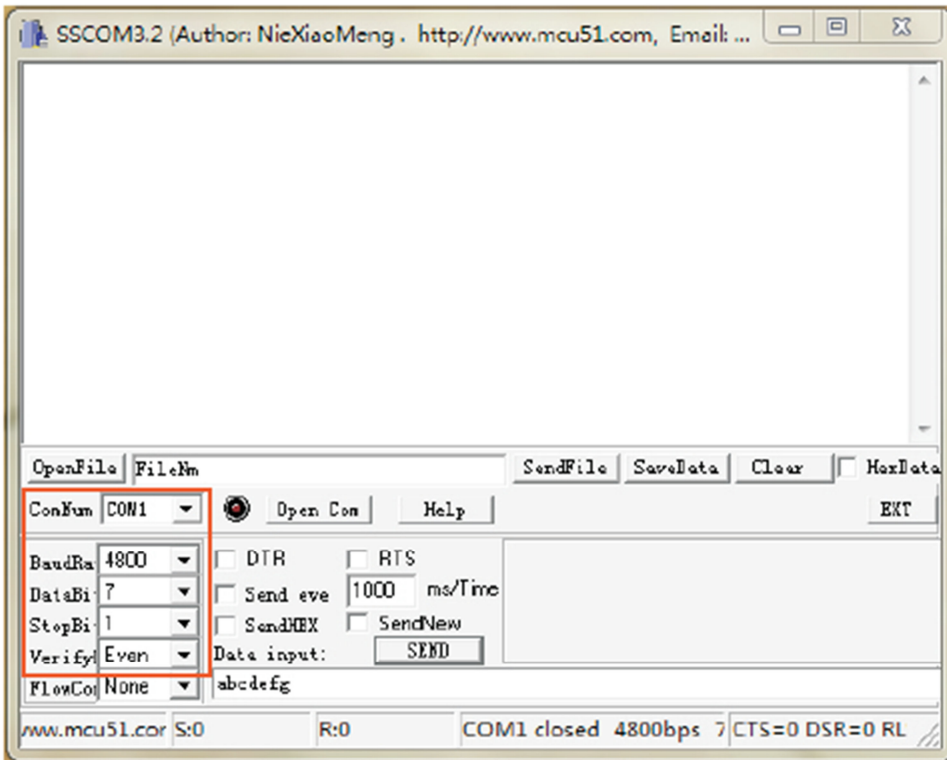
4. SERIAL COMMUNICATION DETAILS

The default baud rate and data format in this scale are 9600 and 8N1.

Connect the scale with computer via RS232 cable, then power on the scale.

Open the Hyperterminal (pre-installed in PC) or COM ASSISTANT (available from the link as below) on the computer, set the baud rate and data format on the software to 9600 and 8N1, and then click **Open Com**.

<http://www.easthigh.com.cn/fileInfoController/index?buttonType=DOWNLOAD>



In normal weighing mode, when reading is stable, press the **Print** key to output data via RS232 interface:

Gross: xxx.xxxkg/lb/oz
Tare: xxx.xxxkg/lb/oz
Net: xxx.xxxkg/lb/oz
ACC.N: xxxxxxxx
Total: xxxxxxxxkg/lb/oz

In counting mode, when reading is stable, press the **Print** key to output data via RS232 interface:

Gross: xxx.xxxkg
Tare: xxx.xxxkg
Net: xxx.xxxkg
Pc.wt.: xxxx.xxg
Count: xxxxxxxxpcs
ACC.N: xxxxxxxx
Total: xxxxxxxxpcs

In % weighing mode, when reading is stable, press the **Print** key to output data via RS232 interface:

Gross: xxx.xxxkg
Tare: xxx.xxxkg
Net: xxx.xxxkg
100%.WT:xxx.xxxkg
Percent: xxxxx.xx%

5. CALIBRATION

- 1) Under the normal weighing mode, press and hold the **ESC/ON/OFF** and **0** keys until the scale displays "CAL".
- 2) Then the scale displays "UN, L.L.G" or "UN, L.L.B" for the calibration unit chosen.
- 3) Use **UNIT** key to choose the calibration unit kg or lb (the corresponding unit indicator will be lit), use the **ESC/ON/OFF** key to exit the mode, or **TARE** key to confirm the unit and go to the next step.
- 4) The scale displays "UNL 0 RD" (this means that the scale is ready to calibrate the zero point, please move away any weight on the scale). When the scale is stable, press the **TARE** key to confirm the zero point calibration and go to the next step automatically., or use the **ESC/ON/OFF** key to exit the mode.
- 5) The scale displays "L 0 RD 1", (this means the scale is ready to calibrate the first calibration point). Place a standard weight (>10% FS) at the center of the scale platter, press the **TARE** to confirm the standard weight calibration after the scale is stable and go to the next step automatically. Or use the **ESC/ON/OFF** key to exit the calibration mode.
- 6) The scale displays " , NPL d" (Input Load Weight), then displays 0, Use the **0** - **9** key or **C** key to input loaded standard weight, then press the **TARE** key for confirmation. Or use the **ESC/ON/OFF** key to exit the calibration mode.
- 7) The scale displays "L 0 RD 2", (this means the scale is ready to calibrate the second calibration point). Place a standard weight (> first calibration point weight + 10d) at the center of the scale platter, press the **TARE** key to confirm the standard weight calibration after the scale is stable and go to the next step automatically. Or use the **ESC/ON/OFF** key to exit the calibration mode.
- 8) The scale displays " , NPL d" (Input Load Weight), then displays 0. Use the **0** - **9** key or **C** key to input loaded standard weight, then press the **TARE** key for confirmation. Or use the **ESC/ON/OFF** key to exit the calibration mode.
- 9) The scale displays "L 0 RD 3", (this means the scale is ready to calibrate the third calibration point). Place a standard weight (> second calibration point weight + 10d) at the center of the scale platter, press the **ENTER** key to confirm the standard weight calibration after the scale is stable and go to the next step automatically. Or use the **ESC/ON/OFF** key to exit the calibration mode.
- 10) The scale displays " , NPL d" (Input Load Weight), then displays 0. Use the **0** - **9** key or **C** key to input loaded standard weight, then press the **TARE** key for confirmation. Or use the **ESC/ON/OFF** key to exit the CAL mode.
- 11) When the scale displays "UNL 0 RD" again, the scale is ready to re-confirm the zero point. Move away any weight on the scale, press the **TARE** key to confirm.
- 12) After the calibration completes, the scale will re-initialize to be ready for normal weighing.

NOTE: If errors occurred in calibration, the scale will display "CAL ER" (this normally means incorrect data input or loading weight). Please return to the last step or use the **ESC/ON/OFF** key to exit the calibration mode.

6. PARAMETER SETTING

- 1) In normal weighing mode, press the **ESC/ON/OFF** and **2** keys until the scale displays “**SETUP**”.
- 2) Then the scale displays “**A.O.T xx**”, which means entering parameter setup mode.
- 3) In setup mode, use the **0** - **9** keys to input numbers, use the **C** key to clear the input value, use the **TARE** key to confirm and go to the next parameter, use the **ESC/ON/OFF** key to exit the mode.

Parameter menu:

Parameter	Meaning	Option	Default Setting
<i>A.O.T xx</i>	Auto off time setting	00~30 minutes	5
<i>bLk. x</i>	Backlight	0 - Backlight always off 1 - Backlight always on 2 - Auto on when key operation or weight changing; auto off if no operation in 15s	2
<i>CSL. II</i>	<i>LCd</i> <i>Contrast</i> <i>Level</i> <i>SELECT</i> <i>ON</i>	<i>0=7</i>	4
<i>ACC.xxx</i>	Accumulation mode	0-MAN, manual accumulation 1-AUT, auto accumulation	MAN
<i>bEEP.xx</i>	Beeper mode in check weighing mode	0-Beeper always off 1-Compare result is LO, beeper on 2- Compare result is OK, beeper on 3- Compare result is HI, beeper on	2
<i>bP5.xxx</i>	Baud rate	1200bps, displays as “12” 2400bps, displays “24” 4800bps, displays “48” 9600bps, displays as “96” 19200bps, displays as “192”	96
<i>dFt.xxx</i>	Byte format	1 - 8N1=8 data bits, No parity check bit, 1 stop bit; 2 - 7O1=7 data bits, 1 parity check bit, 1 stop bit; 3 - 7E1=7 data bits, 1 parity check bit, 1 stop bit;	1
<i>LFt. x</i>	Output mode	0-No communication 1-Output after reading is stable 2-Output after PRINT key is pressed 3-Output after reading is stable or after PRINT key is pressed	2

7. DISPLAY SYMBOL MEANING

- Err01:** Weight is too big
Err04: Exceed zero range
Err05: Less than zero range
Err12: Parameter is not correctly set
Err20: Calibration error
Err30: Inner code is too big
CAP.: Capacity
UOL.: Voltage
UNIT: Measuring units
UnLoAd: No loading
LoAd: Load weight
INP.Ld: Input loaded weight value

8. TROUBLESHOOTING

8.1 Troubleshooting

Symptom	Probable Cause	Remedy
<i>Err01</i>	Weight reading exceeds the overload limit or the weight value cannot be displayed in the current unit of measurement.	Reduce load on the scale until weight value can be displayed, or use an alternate unit of measurement.
<i>Err04</i>	Weight exceeds Power On Zero limit (+10%), or over ZERO key range (+10%).	Make sure the scale platform is empty. Power off the scale and power on again. Perform zero calibration.
<i>Err05</i>	Weight is below Power On Zero limit (-5%) or below ZERO key range (-5%).	Install platform on the scale. Perform zero calibration.
<i>Err30</i>	Load cell wires to indicator are incorrectly connected, shorted, or open; or damaged ADC or load cell.	Make sure wires are correctly connected. Service required to replace load cell or ADC chip.
<i>Err10</i>	EEPROM is damaged.	Service required.
<i>Err12</i>	Setup parameters are not set, not correctly set, or settings have been lost.	Re-set parameters. Perform calibration.
<i>Err20</i>	Calibration error. Input data or loaded weight is too small, too large, unstable, or not linear.	Input correct data, load correct weight onto platform, or service is required.
<i>Lo.bAt</i>	Battery is discharged.	Charge battery.
<i>Pct.Er</i>	A wrong % is selected in percent weighing mode.	Select a smaller % or put a bigger weight on the scale as the sample.
Will not power on	Power cord not plugged in or improperly connected. Power outlet not supplying electricity. Battery discharged. Other failure.	Check power cord connections. Make sure power cord is plugged into the power outlet. Check power source. Replace batteries. Or service required.

Unable to zero the display or will not zero when turned	Load on the scale exceeds allowable limits. Load on the scale is not stable. Load cell damage.	Remove load on the scale. Wait for load to become stable. Service required.
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8.2 Battery and Charging

Power is supplied by an internal rechargeable acid battery. When “*L o . b A t*” is displayed, the battery must be recharged. Plug in the AC power adapter to recharge the battery. The scale may continue to be used on AC power during charging. Full charging time is approximately 10-12 hours.

Battery life and recharge time will vary with use. Over time, the operating time per each full charge will degrade. If the operating time is no longer acceptable, the battery must be replaced. When storing the scale for extended periods, the battery must be charged every 180 days to avoid premature performance degradation.

9. REPLACEMENT PARTS

Part Number	Description
34UW02	12Vdc/500mA AC power adapter with central positive
31MP29	Underside foot

10. ONE YEAR LIMITED WARRANTY

MeasureTek products covered in this manual are guaranteed to be free from defects in material and workmanship for a period of one year after date of purchase. Misuse, accidental damage, overload, alteration, and improper installation are expressly excluded. Any product which is determined to be defective in material or workmanship within this time period may, as the exclusive remedy, be returned to an authorized MeasureTek distributor or service center, freight prepaid with prior return authorization, to be repaired or replaced at the manufacturer’s option. MeasureTek’s liability under this warranty is limited to the repair or replacement of the defective product and in no event shall MeasureTek be liable for consequential or indirect damages.



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