



MEASURETEK
QUALITY SCALES



EHX

User Manual

Contents subject to change without notice

Version 1.0
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1. INTRODUCTION

General and Safety Information



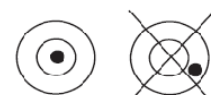
- For use in dry environments only.
- This product uses a Lead-acid rechargeable battery. Dispose of according to local laws and regulations.
- Read and understand all operating instructions before using this product. Keep this manual for future reference.
- Allow sufficient warm up time. Turn the scale 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.

Specifications

| Model | EHX-06 | EHX-15 | EHX-30 | EHX-10H | EHX-20H |
|---------------------------------|---|------------------|----------------|-------------------|------------------|
| Max. Capacity | 6 kg (12 lb) | 15 kg (30lb) | 30 kg (60lb) | 10 kg (20 lb) | 20 kg (40 lb) |
| Readability | 0.2 g (0.005 lb) | 0.5 g (0.001 lb) | 1 g (0.002 lb) | 0.1 g (0.0002 lb) | 0.1g (0.0002 lb) |
| Display Resolution | 1:30000 | | | 1:100000 | 1:200000 |
| Construction | Stainless steel pan, plastic housing | | | | |
| Weighing Units | kg / lb / pcs | | | | |
| Calibration unit | kg / lb | | | | |
| Modes | Weighing, Tare, Check-weigh, Simple Parts Counting | | | | |
| Weight Display | 1-Window 6 1/2 digits, 0.73" (18.5mm) high, 7 segments LCD display with white backlight | | | | |
| 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 | 6V 4Ah lead-acid battery or AC power adapter (12Vdc/500mA with central positive) | | | | |
| External Interface | RS232 | | | | |
| Platter Dimensions (L x W) | 285 x 241.3 mm; 12.2" x 9.5" | | | | |
| Scale Dimensions (L x W x H) | 289 x 305 x 100 mm; 11.25" x 12" x 4" | | | | |

2. Unpacking and Setup

- Remove the scale from the box and place it on a firm, level surface. Avoid locations with rapid temperature changes, excessive dust, moisture, air currents, vibrations, electromagnetic fields, heat or direct sunlight.
- Adjust the leveling feet until the bubble is centered in the circle of the level indicator (located on the front panel).



NOTE: Ensure that the scale is level each time its location is changed.





















































- The internal rechargeable battery should be fully charged for up to 12 hours before using the scale for the first time.
- Connect the supplied AC adapter to the power input receptacle underneath the scale. Plug the AC adapter into a properly grounded power outlet. The battery will begin charging.
- If the scale will be stored or transported in the future, save the packaging material to ensure the best possible protection for the scale.

Contents

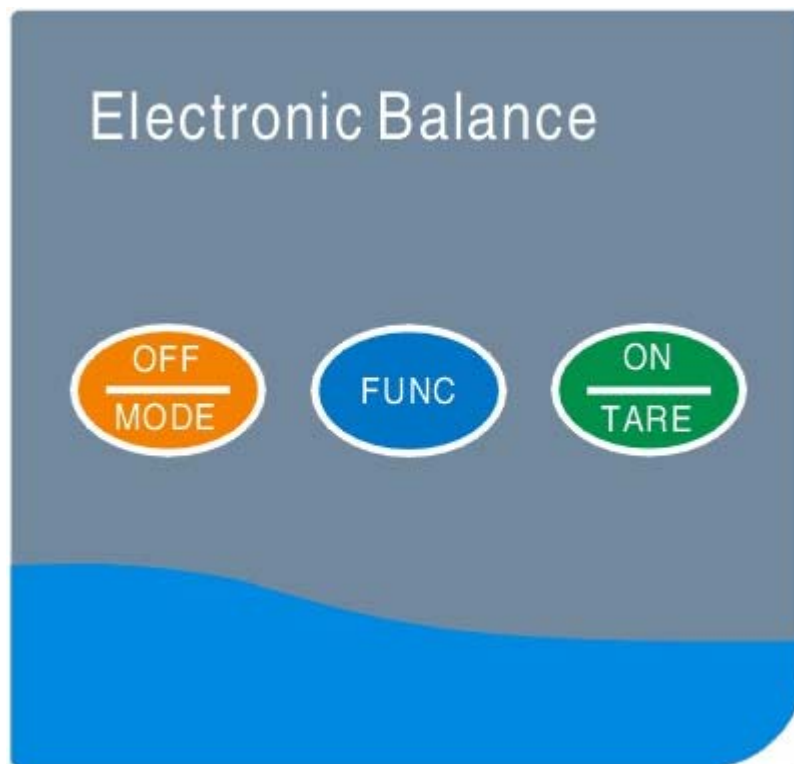
- Scale
- 12Vdc/500mA adapter
- Manual




3. OVERVIEW OF CONTROLS AND FUNCTIONS

3.1 Indicator Display Character Definitions

| Symbol | 7-segments digit | Symbol | 7-segments digit | Symbol | 7-segments digit | Symbol | 7-segments digit | Symbol | 7-segments digit |
|--------|---|--------|---|--------|---|--------|---|--------|---|
| 0 |  | C |  | O |  | (|  | ï |  |
| 1 |  | D |  | P |  |) |  | ô |  |
| 2 |  | E |  | Q |  | | | ù |  |
| 3 |  | F |  | R |  | À |  | û |  |
| 4 |  | G |  | S |  | Â |  | ü |  |
| 5 |  | H |  | T |  | Æ |  | | |
| 6 |  | I |  | U |  | Ç |  | | |
| 7 |  | J |  | V |  | È |  | | |
| 8 |  | K |  | W |  | É |  | | |
| 9 |  | L |  | X |  | Ê |  | | |
| A |  | M |  | Y |  | Ë |  | | |
| B |  | N |  | Z |  | Ë |  | | |

3.2 Key Functions



| | |
|---|--|
|  | <p>Press to power on the scale when the scale is off Press to tare a weight when the scale is on</p> |
|  | <p>Long press to set upper and lower limit value</p> |
|  | <p>Press to change the weighing units : kg, lb, pcs Long press to power off the scale when the scale is on</p> |

4. OPERATIONS

4.1 Power on / Power off scale

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, press the **ON/TARE** key to power on the scale. The self-check will run and the scale will display a zero reading.

To power off the scale, press and hold **OFF/MODE** key until "OFF" displays.

4.2 Zeroing the display

You can press the **ZERO** key at any time to set the zero point. 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.

4.3 Taring

Zero the scale by pressing the **ZERO** key if necessary when reading is stable.

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

Press the **ON/TARE** key to tare the scale. The weight that was displayed is stored as the tare value and that value is subtracted from the display, leaving zero on the display. 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 was to be added to the first one. Again only the weight that is added after taring will be displayed.

When the container is removed a negative value will be shown. If the scale was tared just before removing the container this value is the gross weight of the container plus all product that was removed.

To cancel tare function, press **ON/TARE** key again, then the display will show zero.

4.4 Switching measuring unit

In normal weighing mode, press **OFF/MODE** key to switching the measuring units between kg, lb, pcs.

4.5 Normal Weighing Mode

When scale is powered on and back to 0, first tare the empty container then place the sample in the container. The display will show the weight and the units of weight currently in use.

4.6 Set Upper and Lower limit

4.6.1. Alarm function

The scale can be set alarm function only for upper limit or lower limit, and it also can be set both upper and lower limit alarm function at same time.

- When both upper and lower limit are set.
 - a: Lower limit value \leq display weight value \leq upper limit value ;
The scale will not alarm.
 - b: lower limit value $>$ display weight value $>$ upper limit value:
The scales will alarm.

- When only lower limit is set.
 Display weight value \geq lower limit value ; The scales will not alarm.
 Display weight value $<$ lower limit value ; the scales will alarm.
- When only upper limit is set ;
 Display weight value \leq upper limit value ; The scales will not alarm.
 Display weight value $>$ upper limit value ; The scales will alarm.

4.6.2. Set upper and lower limit value

Press and hold "FUNC" until the scale displays "L 0 0 0" or "L 0 0 FF", meaning to set the lower limit value. When in the state of "L 0 0 0", press **ON/TARE** key and the last lower limit value will display, and the left number will flash, press **OFF/MODE** key to change the number, and press **ON/TARE** key to confirm, until the right number is set and the display value is stable, indicating that lower limit is set

Then the scale displays "UP 0 0" or "UP 0 FF", meaning to set the upper limit value. When in the state of "UP 0 0" press **ON/TARE** key and the last upper limit value will display, and the left number will flash, press **OFF/MODE** key to change the number, and press **ON/TARE** key to confirm, until the right number is set and the display value is stable, indicating that upper limit is set.

4.6.3. Cancel upper and lower limit alarm

Press and hold **FUNC** key to enter setting lower limit, the moment the scale will display "L 0 0 0" or "L 0 0 FF", press **OFF/MODE** key to change between "L 0 0 0" or "L 0 0 FF". When in the state of "L 0 0 FF", press **ON/TARE** key to cancel the lower limit setting, then enter setting upper limit, the moment the scale will display "UP 0 0" or "UP 0 FF", press **OFF/MODE** key to change between "UP 0 0" or "UP 0 FF". When in the state of "UP 0 FF", press **ON/TARE** key to cancel the upper limit setting,

4.7 Counting function

The scale will count parts based on the weight of a reference sample:5,10,20,30,40,or 50 parts, to get more accurate counting result, the weight of the parts should be equal, meaning the less the error of the single part is, the better.

4.7.1 When scale is on, press **OFF/MODE** key repeatedly until "C 0 0" displays.

4.7.2 Place a container on the platform, then press **ON/TARE** key, and the scale will display "ADD 5" which is the preset reference quantity, "5" shows the quantity of the reference sample.

4.7.3 To change the reference quantity, press **FUNC** key repeatedly until the desired quantity is displayed, and put on the corresponding parts samples on the platform, press **ON/TARE** key to confirm, then, the scale will display the quantity of the samples, the setting is over.

NOTE: If you want to restart parts counting, repeat the operation steps above, if "PC Err" is displayed, it means the sample is too light to provide accurate results within the error range set by the scale.

4.7.4 Add parts to the container as desired and read the quantity on the display, at this time, only "PC 5" counting signal is displayed (unit "kg" or "lb" isn't displayed).

4.7.5 Press **OFF/MODE** key to switch between parts counting and weight.

4.7.6 To cancel counting function, press and hold **ON/TARE** key until "C 0 0" displays, then press **OFF/MODE** key, the counting function will be canceled.

5. Calibration

When precision weighing is needed, calibrate the scale as follows:

First take away the object from the platform, then press **ON/TARE** key to set the display to zero, press and hold **ON/TARE** key until "CAL" is display, then release, the scale will display "CAP". Press **ON/TARE** key to switch between "L, PE" or "CAP", and press **ON/TARE** key to confirm.

Note: "L, PE" means to do the liner calibration, and "CAP" means to do the sensitivity calibration.

5.1 Liner calibration

When in the state of "L, PE", press **ON/TARE** key to confirm. "0.000" will show, press **ON/TARE** key again, a few seconds later half of full capacity weight value will show, put the corresponding calibrating weight on the center of the platform, then press **ON/TARE** key, then the full capacity weight value will show, put the corresponding calibrating weight on the center of the platform, then press **ON/TARE** key again, meanwhile the full capacity weight value will display, indicating that calibrating is over and normal weighing can be done.

5.2 Sensitivity calibration

When in state of "CAP", press **ON/TARE** key to confirm. "0.000" will show, press **ON/TARE** key again, a few seconds later the scale displays six digits and the highest digit flashes. Press **OFF/MODE** key to switch calibration weight and confirm by **ON/TARE** key (It is recommended to use over 50% full capacity weight to calibrate). When the all 6 digits stop flashing, it means the calibration weight is confirmed. Place the calibration weight on the scale, press **ON/TARE** key, the scale displays the calibrated weight, then the calibration completes.

6. RS232C communication

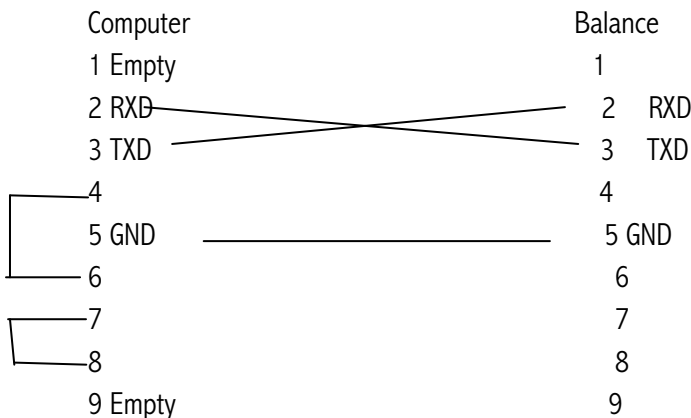
6.1 Baud rate=9600, no parity, one stop.

6.2 Data from output by ES series electronic scales

: + (-) XXX. XX UNIT <CR><LF>

All the segments above belong to ASCII, the unit can be "kg" "lb" or "pcs"

6.3 Writing method



6.4 Demonstrating communication software

- (1) The super end under WIN9X/NT/2000/XP
- (2) The debugging assistant on www.gjwtech.com

7. Error Codes and Troubleshooting

The following list describes the various errors which may appear on the display and the suggested remedy.

- Err 0 --- With the platform on, this signal indicates the platform is too light. Make it heavier properly. If this error still occurs, the sensor or the circuit board may be destroyed. The balance must be sent to the manufacturer to be serviced.
- Err 1 --- The sample being weighed exceeds the capacity of the balance. If the error occurs when the sample is within the balance capacity, maybe the balance is not correctly calibrated.

8. Battery and Charging

Power is supplied by an internal rechargeable 6V lead-acid battery (4Ah). When “**Lo.bAt**” 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 90 days to avoid premature performance degradation.