TREE®
by LW MEASUREMENTS LLC

LCTx SERIES

Large Counting Scale

LCTx3/LCTx7/LCTxl6/LCTx33/LCTx66/LCTx110

Operating Manual

Professional Weighing Equipment

NOTE: THIS PRODUCT HAS BEEN FACTORY CALIBRATED. PLEASE REFER TO THE MANUAL BEFORE RE-CALIBRATING PRODUCT!

Table of Contents

Declaration of Conformity

Declaration of conformity for apparatus with CE mark

We hereby declare that the product to which this declaration refers conforms to the following standards.

Electronic scale: **LCT** - Large Counting Scales

Available Models:

LCTx 3
LCTx 7
LCTx 16
LCTx 33
LCTx 66
LCTx 110

Mark Applied	EU Directive	Standards
CE	2004/108/EC	EN 61326-1: 2006

Signature:

Boon Lim, R & D Manager
Date: 01/01/2024

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Introduction

What you should know about this Operation Manual:

Tree® Professional Weighing Equipment products are simple to operate. Nevertheless, you should read through these operating instructions in their entirety, so that you can make optimum use of the full potential of the weighing scale in your daily work activities.

These operating instructions contain guidance in the form of pictograms and keyboard diagrams, which should help in finding the required information:

For the labeling of potential hazards, please refer to the Safety proportion of this operation manual.

Safety

Representations & Symbols

Note: Important instructions, which involve safety, are highlighted with the appropriate mark:

⚠ DANGER

Safety Recommendations

When using the weighing equipment in surroundings with increased safety requirements, the corresponding regulations must be observed.

The weighing scale may only be used with the power adapter supplied.

Before connecting the power adapter to the scale, the user must ensure that the operating voltage stated on the power adapter is compliant with the mains voltage. If not, please contact Customer Service at the address above.

If the power adapter or its cable is damaged, the weighing scale must immediately be disconnected from the electricity supply (unplug the power adapter).

If there should be any reason to believe that it is no longer safe to operate the scale, it should be immediately unplugged from the electricity supply (unplug power adapter) and secured against inadvertent operation.

During maintenance work, it is essential to follow the recommendations set out in maintenance and servicing.

The weighing scale must not be operated in an area subject to explosion risks.

Care must be taken when weighing liquids to ensure that no liquid is spilled inside the scale, into connections on the rear of the equipment, or the power adapter. If liquid is spilled on the scale, it must immediately be unplugged from the main electricity supply (unplug power adapter).

The weighing scale may be operated after it has first been inspected by a service technician.

These operating instructions must be read by each user and should always be easily accessible at the workplace.

Weight Scale

Construction & Functions

The weighing scale consists of the following parts.

1. **The Scale Body**
2. **The Scale Pan**
3. **The Adapter**
4. **Operating Manual**

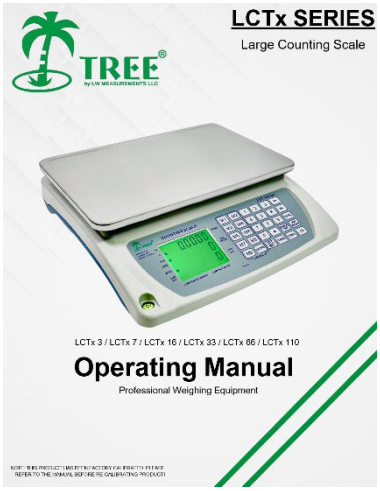
2

1

1

3

4



Functions

The LCT Series are high-quality electronic precision weight scales designed to function as counting scales and check-weights with the following specifications.

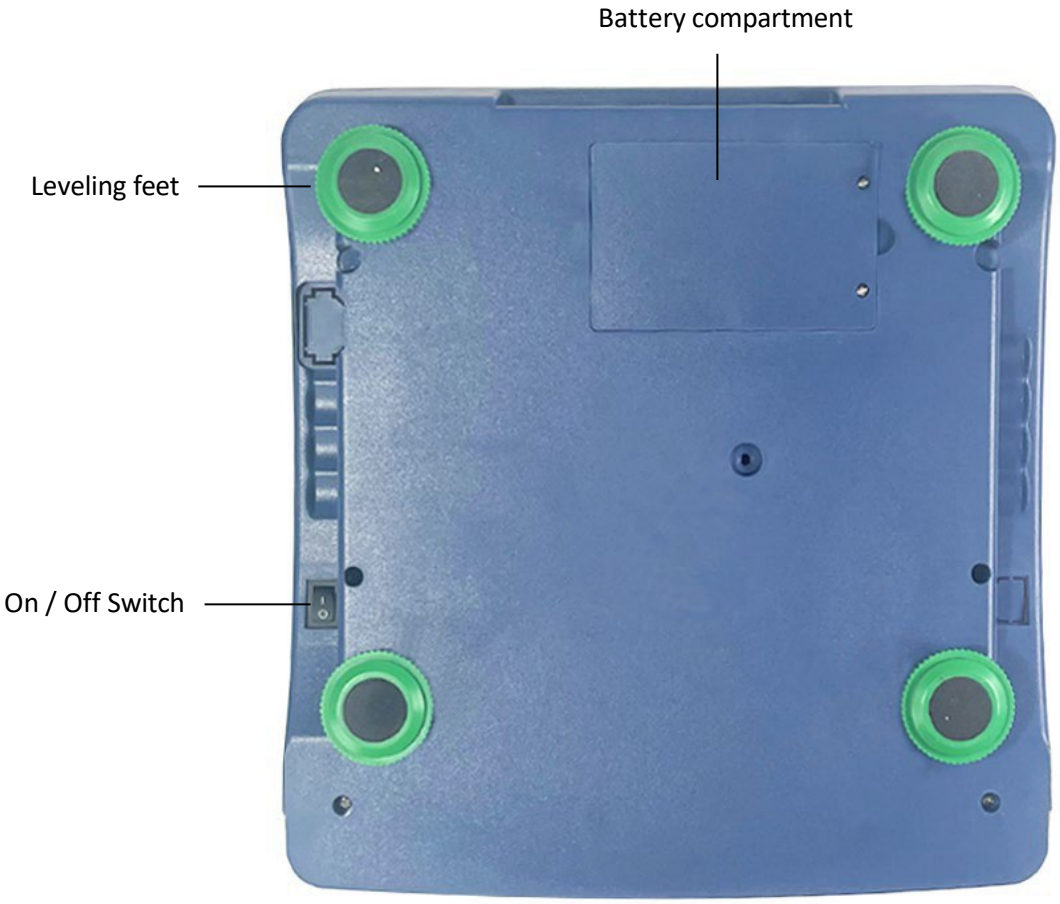
Specifications:

Model number	Capacity	Graduation	Weighing Pan Size
LCTx 3	3 lb.	0.00005 lb	9 x 13.25 in
LCTx 7	7 lb.	0.0001 lb.	9 x 13.25 in
LCTx 16	16 lb.	0.0002 lb.	9 x 13.25 in
LCTx 33	33 lb.	0.0005 lb.	9 x 13.25 in
LCTx 66	66 lb.	0.001 lb.	9 x 13.25 in
LCTx 110	110 lb.	0.002 lb.	9 x 13.25 in
Net/Gross Weight	9.25 lb / 11.24 lb		
Package	Standard Carton: 17 x 17 x 8 in		
	2 units in one box: 18 x 18 x 17 in		
Operating Temp.	0-40℃ (32℉-104℉)		
Power Source	Rechargeable Battery or AC/DC		
	Adapter 12V/ 1A		

Features

1. Auto zero tracking
2. Intelligent applications, parts counting, high / low check-weighing
3. Low battery indication
4. Large bright back-lit LCD
5. Large heavy gauge stainless steel square pan
6. Stability indication
7. Auto calibration
8. Auto back light
9. Unit of measurements; kg or lb.
10. Variable kg or lb. reference weight calibration software
11. 1.3 million internal resolutions
12. 66,000 display resolution
13. 32-bit A/D processor
14. Highest quality sensor used
15. Die cast aluminum sub-support, bottom sensor support and steel thread footing

Details of your weighing scale



Application & Conformity

The following are instructions on how to correctly use the weight scale:

The weighing scale may only be used for the weighing of solid materials and of liquids contained in secure containers.

The maximum capacity load of the weighing scale must never be exceeded, otherwise the weighing scale may be damaged.

When using the weighing scale in combination with other devices, including those produced by other manufacturers, the appropriate regulations for the safe use of the relevant attachments and their application in accordance with instructions must be observed.

The weighing scale has been manufactured and tested in accordance with the standards and recommendations set out in the declaration of conformity.

The power adapter supplied for the weighing scale complies with the appropriate electrical protection class.

The following applies to all LCT series weighing scales.

Power supply:

Input: 110V AC 50Hz to 60Hz

Output: 12v DC 1A

All Tree scales use AC Adapters that have a negative polarity.

Allowable ambient conditions:

Temperature: 5°C. 40°C

Relative humidity:

25% - 85%, non-condensing

****NOTE: If you have any questions on the technical data or require detailed technical information on your balance, please contact your technical representative.****

Getting Started

The scale is packaged in an environmentally friendly carton, which provides optimum protection for the balance during transportation.

We suggest that you keep the original packaging to avoid damage if you are shipping or transporting the scale to a different location. It is also the best way to keep it in the best condition if it will not be used for an extended period.

To avoid damage, please follow the instructions provided below, when unpacking the scale:

1. Unpack the scale carefully.

2. When outside temperatures are very low, the scale should be stored for a couple hours in its box in a dry room at normal temperature. This prevents any condensation from settling on the unit when opening the box.

3. Check the scale immediately after unpacking for any external visual damage. If there is any damage on the scale, contact customer service immediately.

4. If the scale is not to be used immediately after purchase, it should be stored in a dry place where fluctuations in temperature are low. (reference pg.21).

5. Read through these operating instructions before you work with the unit and pay attention to the safety recommendations (reference Safety pg. 5).

Delivery

Inspect delivery for completeness immediately upon unpacking all components.

Checklist for complete delivery

Component	Present (Yes / No)
Weighing unit body	
Weighing pan	
Power adapter	
Operating manual	

Assembly & Installation

The weighing scale is delivered in a partly dismantled condition. Assemble the individual components in the following sequence:

- Place your machine on a level, clean, and dry surface to obtain accurate readings.
- Place the stainless-steel platter flat side facing up.

Connecting the AC Adapter

The following safety recommendations must be observed when connecting the balance:

⚠ DANGER

The Scale should only be connected to the mains voltage socket with the power adapter supplied. Before connecting the power adapter to the mains socket, check to see that the operating voltage stated on the power adapter complies with the local mains voltage.

If the operating voltage is not the same as the mains voltage, the power adapter must not be connected to the mains socket and contact customer service.

Placement of Scale

The location in which the scale is placed is very important for the scale to work to its full potential. Certain conditions can affect the capabilities of the scale, such as presence of air flow, variations in temperature, and direct sunlight. Please follow the recommendations given below in choosing a location to place your scale.

- Place the scale on a solid, firm, and preferably vibration-proof horizontal base.
- Make sure that the weighing machine cannot be shaken or knocked over.
- Protect from direct solar radiation.
- Avoid drafts and excessive temperature fluctuations.
- Avoid placing the scale near or on any magnetic surfaces.

The balance is fitted with one bubble level, and adjustable feet for level-control that allow for small height differences or any unevenness in the surface on which the balance is placed.

The screw feet must be adjusted so that the air bubble is precisely in the center of the sight glass of the bubble level (see Fig. 1)

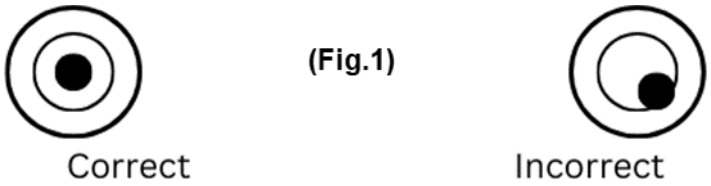


Fig. 1 Correct leveling with the aid of the bubble level and adjusting feet.

Place the scale horizontally and keep the bubble inside the bubble level aligned with the circle (see Fig. 1). To get exact measurements, the balance must be carefully leveled after each re-location.

Display Messages

- **Weight Display -** indicates the gross or net weight on the weighing pan.
- **Unit Weight Display -** indicates the average or set unit piece weight.
- **Total Display -** is the accumulated total pieces on the weighing scale.
- **kg -** Kilograms (1000 grams) is a Unit of measure.
- **lb. -** Pounds (16 ounces) is Unit of measure.
- **stb -** stable indication
- **Zero –** zero indicator turns on when the scale is in the zeroed.
- **TARE Indicator -** turns on when this function is used
- **LoB -** low battery voltage, please charge battery.
- **Low Unit Value-** is activated when the sample number is not significant enough to allow an accurate counting.
- **Low Sample Weight-** is activated when the sample unit weight is not significant enough for an accurate count.

Key Functions

1. The ZERO key function allows the subtraction of multiple container values through the weight range and is used to set or re-adjust to zero.

2. The TARE key function allows the user to subtract the container value and will also set the scale at zero.

3. The *NUMERIC KEYS* (0-9) are used for setting numeric data for sample number, sample weight, or to set HI/LO settings.

4. The • key function is used to set the decimal position of the sample weight.

5. The SAMPLE UNIT key function is used when setting the counted sample numbers on the weighing pan into weighing scale memory.

6. The UNIT WEIGHT key function is used when setting the known unit weight data into the weighing scale in normal operation.

7. The CE key function is used for canceling the numeric setting data or cancelling the previous unit weight data.

8. The QTY SET key function is used for alternating the normal count and quantity check operation.

9. The M+ memory key function is used to store the accumulated count data and has a storage limit of 99 items.

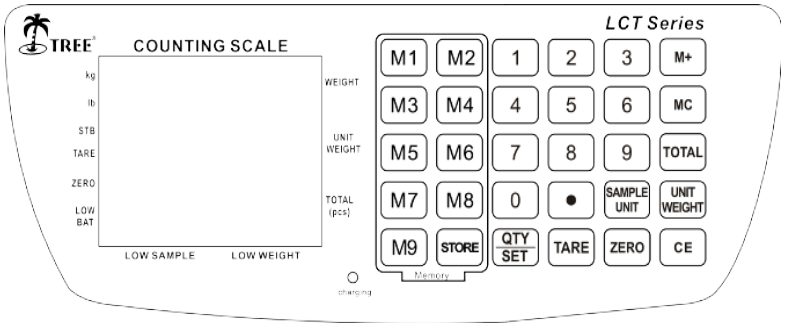
10. The MC key is the memory clear key.

11. The *M1-M9 memory* keys select a saved memory slot or assign new memory data.

12. The STORE key is used to store data on the M1-M9 memory slots.

13. The TOTAL key displays the accumulated total pieces on the scale.

Full Keypad
&
Display



Program Options

The weighing scale can perform additional applications such as piece counting, high / low check-weighing, and weight unit conversion.

Piece Counting

Sample Setting: There are two sample setting methods:

1. **Number setting: Counting pieces with an unknown unit weight.**
   - Press the SAMPLE UNIT key to **select** your **unit of measure** (**kg**. or **lb**.)
   - Place a **pre-counted number** of items (i.e. **10 units**) on the weighing pan, either directly or, using a container (do not forget to tare the container weight first)
   - The **total weight** will be displayed on the scale.
   - Enter the **corresponding number** of items (i.e. **10 units**) using the ***NUMERIC KEYS*** and press the SAMPLE UNIT key.
   - Process is **complete**.
   - Press M+ to **save** the **accumulated total** (if desired)
   - Press CE key to **clear** any previous setting or to cancel the previous unit weight and sample setting.
   - Press CE to return to **normal** operation.
2. **Unit Weight Setting: Counting pieces with a known unit weight.**
   - Press CE key to **clear** any previous setting, or to **cancel** the previous **unit of weight** and **sample** setting.
   - Press the SAMPLE UNIT key to select your **unit of measure** (kg. or lb.)
   - Place items on the scale.

- Key in the **average piece weight** using the ***NUMERIC KEYS***.
- Press the UNIT WEIGHT key.
- The **total number** of **pieces** will be displayed (more items can be added, if desired).
- Press SAMPLE UNIT key and the **process** is **complete**.
- Press M+ if **accumulated total** is required.
- Press CE to return to **norma**l operation.

Advanced Piece Counting Functions

1. Alarm

To avoid counting errors, the weighing scale has a useful alarm function to inform the user of any counting error in case of a low sample size or weight.

2. Low Sample Warning

The low sample indicator on the display will activate if the total weight of the sample is below the limit value.

- Press the CE and use a larger sample size (more weight),
- Key in a sample size using the ***NUMERIC KEYS*** and press SAMPLE UNIT.

3. Unit Weight Enhancement

The scale will automatically adjust and calculate the new average unit weight when more samples are slowly placed on the scale. This ensures higher accuracy as samples are now based on larger population size.

4. Low Piece Weight

The low piece weight indicator will turn on if the average unit weight or set unit weight is not enough for an accurate counting operation. Operator may use the scale even if the indicator turns on, but counting errors might occur.

5. High / Low Check-Weighing with Counting

The LCT series has a useful check function to alert the user that the total piece count quantity is below a pre-set lower limit or has reached a pre-set upper limit.

For example, if it is required to count 1000 pieces into each package, the operator can set the lower limit and the upper limit:

- Press QTY SET key, check that the display shows "**CH-ON**".
- To change from **on** or **off**, press the ZERO key.
- Once the **CH-On** is displayed, set the **lower count** to the desired quantity using the ***NUMERIC KEYS***. (Using the 1000 qty. example the lower limit would be 999.)
- To **set** the **upper count limit** press the TARE key and set the desired quantity using the ***NUMERIC KEYS***. (Using the 1000 qty. example, the upper limit would be 1001.)
- Press QTY SET key to **confirm** the information entered and **return** to **count mode**. The scale is ready for weighing.

****Note:** If "**CH=ON**" was previously set, the **alarm will sound** if the count limit is met. ****

6. Setting Weight Units

- **Without** any weight placed on the platform, press the SAMPLE UNIT key to select the unit (**kg** or **lb**.).

7. Activating the Alarm

When the scale is turned **OFF**.

- Press and hold UNIT WEIGHT key and turn the scale **ON**.
- Press QTY SET key to activate(**b-ON**) or deactivate (**b-OFF**) the function of the beeper.
- To **return** to **normal operation** turn the scale **OFF** then back **ON**.

8. Activating the Display Backlight

When the scale is turned **OFF**,

- Press and **hold** the UNIT WEIGHT key and turn the scale **ON**.
- Press ZERO key to select L-ON, L-AU (for auto), or L-OFF for the backlight function.
- To **return** to **normal operation** turn the scale **OFF** then back **ON**.

9. Automatic Stand-By

When the scale is turned **OFF**.

- Press and **hold** the UNIT WEIGHT key and turn the scale **ON**.
- Press the TARE key to select **automatic stand-by**.
- To **return** to **normal operation** turn the scale **OFF** then back **ON.**

10. Memory Storage (M1 to M9)

- Turn **ON** the scale, then select the **unit of measure** (**kg**. or **lb.**) by pressing the SAMPLE UNIT key.
- To store the information, press the STORE key and then the memory key (M1 to M9) you want to use to save the information.
- The process is **complete.**
- **Repeat** steps above, to **store memory** values for the rest of the **memory keys**.
- Press CE to **clear** the **display**.
- Press ***M1 to M9*** to **recall** each **pre-stored** unit weight from **memory**.

11. Memory Clear (M1 to M9)

- Press the CE key and the display will show "**0**".
- Then press the STORE key to display "**CO**" immediately press M1 key to **clear** the **memory of M1.** The display will show a **dashed line** on the **total pcs.** column.
- To **clear** the **memory** for the rest of the **memory keys,** repeat the above steps.

12. Total Weight Pieces

To clear the total pieces from the memory, press M+ key once storage is full.

- Press the TOTAL key to **display** the **total pieces count**.
- Then press the MC key to **clear** the **displayed total pieces**.
- Press the CE key to **confirm** the process.

Calibration

Calibration is done in the factory. Don't re-calibrate the machine unless it is not accurate. Calibration may be required when the weighing scale is initially installed or if the scale is moved a substantial distance from the original location. The weighing machine should be allowed to warm up for 10 minutes before calibration.

What you need:

1. Using a calibration or test weight that is **2/3** of the max capacity is strongly recommended for recalibration.

2. If you do not have a test weight or calibration weight. You can use any object of "known weight" to calibrate with our scales **AnyCal** Calibration software.

****NOTE: when calibrating even if you use a "known weight" the more exact the weight is the more precise the calibration will be.****

Single segment calibration (recommended):

- When the scale is **OFF** press and **hold** the ZERO key and turn the scale back **ON**. The scale will enter the **calibration** menu. (*Older units will countdown before entering the calibration menu.*)

- The display will show **SCALE** on the first line, **CAL-0** (flashing) on the second line, and the **A/D value** on the third line.

- Then select the **calibration unit** (**kg**. or **lb**.). To **change** the **calibration unit**, press the SAMPLE UNIT key.

- Check to make sure that the scale is stabilized then press the ZERO key once it starts flashing "**0**".

- Use the ***NUMERIC KEYS*** to enter in how much weight you will use to calibrate the scale.

- Wait for the scale to **stabilize**.

- Place the **weights** you will use to **calibrate** on the platform. Once the scale is **stabilized** press the ZERO key. Wait for a line of "ooooo" to show on the scale.

- **Calibration** is **complete**.

- Turn **OFF** the scale and the settings will be saved.

- **Remove** the weights and turn **ON** the scale for normal operations.

- **Place a weight** on the platter to **verify** weighing is **correct**. If not, repeat the above steps.

Linearity Calibration

***This Calibration is to be completed by a trained scale technician. ***

- **Press** and **hold** the TARE key and then turn **ON** the scale.
- The display will show **Line** on the first line, **CAL-0** (flashing) on the second line, and **AD value** on the third line.
- When the **AD value** is **stable**, press ZERO key to calibrate **Zero**. After **3** seconds, the second line will show **1, 0000. (Ex. LCT-7)**
- Place a **1 kg** weight on the platter and press ZERO key when the stable **A/D value** is displayed. After **3** seconds, the display will show **2.0000**.
- Place a **2 kg** weight on the platter and press ZERO key when the stable **A/D value** is displayed. After **3** seconds, the display will show **3.0000**.
- Place a **3 kg** weight on the platter and press ZERO key when the stable **A/D value** is displayed. After **3** seconds, the display will show **0.0000**.
- **Calibration** is now **complete**.
- To **return** to **normal operation** turn the scale **OFF** then back **ON.**
- **Place a weight** on the platter to **verify** weighing is **correct**. If not, repeat the above steps.

***NOTE: The above linearity calibration is only for LCTx 7, for other LCTx capacities, add test-weight according to display value. ***

Maintenance & Service

⚠ DANGER

- For maintenance work, the balance must be disconnected from the power supply (remove power adapter plug from socket). Also, ensure that the balance cannot be connected to the power supply during the work by a third party.

- Make sure that no liquid spills into the scale while performing maintenance work. If liquid is spilled on the scale, it must be inspected by a service technician.

- **Regularly** maintain the weighing pan and the weighing pan holder by removing any dirt or dust from under the weighing pan and on the weighing scale housing. Use a soft brush or a soft, lint-free cloth moistened with a mild soap solution.

- **Never** use solvents, acids, alkalis, paint thinners, scouring powders, or other aggressive or corrosive chemicals for cleaning; these substances can cause damage to the surfaces of the scale housing.

Transportation & Storage

Your weighing machine is a precision instrument, treat it carefully. Avoid shaking, severe impacts, and vibration during transportation. Make sure that there are no marked temperature fluctuations during the transportation and that the weighing machine does not become damp (condensation).

If you would like to take the weighing machine out of service for an extended period, disconnect it from the electricity supply, clean it thoroughly (refer to Maintenance & Service) and store it in a place that meets the following conditions:

- No violent shaking or vibrations
- Minimum temperature fluctuations
- No direct solar radiation
- Minimum moisture

The weighing machine should preferably be dispatched and transported in the original packaging to avoid transportation damage.

CAUTIONS

Overcharging will cause permanent damage.

- When the recharging sign "  " indicates, please charge the battery for 8 to 10 hours. When the charging is done, the orange light will turn green.
- Only use the charger (adapter) supplied with the indicator.
- After recharging, ifthe battery does not last long, replace it with a new battery.

Troubleshooting

Error Code	*Issue*	*Troubleshoot*	*Solution*
ERR-O/0	Overload error	Turn scale off, then back on, and try weighing using weight under the max capacity to verify the loadcell still functions.	If scale still registers accurate weight refrain from continued over loading. If error continues loadcell may be damaged.
ERR-Z/2	Exceeded zero tracing range when powered on.	Turn scale off and clear weighing platform. Turn scale back on and attempt recalibration.	If the scale was recalibrated successfully then the error is resolved. If error persists, scale may need a linearity calibration or has a damaged loadcell.
ERR-S/5	Scale not stable when powered on.	Make sure scale is stable when powered on. Do not touch, shift, or place anything on the weighing platform until after the countdown.	If error persists, scale may need recalibration. If error continues after recalibration, then loadcell may be damaged.
ERR-C	Calibration weight was not entered during calibration	Enter calibration weight during calibration process.	If error persists, call support.
ERR-P	Counting set error	Place sample before entering counting settings.	If error persists, call support.
ERR-L	Calibration weight was not placed during calibration.	Be sure to place weight when recalibrating.	If error persists, call support.
ERR-E	Software issue	If error persists, call support.	If error persists, call support.
ERR-B/6	Low battery error	Attempt to charge battery.	If error persists, battery will need to be replaced. Make sure to not leave scale with rechargeable battery plugged in constantly.
For any error that is not shown on this list or that persists after troubleshooting you will need to contact support.			

TREE®
by LW MEASUREMENTS LLC

We are genuinely grateful for your recent purchase. Your decision to choose TREE by LW Measurements means a lot to us.

Your support enables us to continue creating and providing high-quality products and services. We hope you enjoy your new scale and that it brings you as much satisfaction as it brings us to serve customers like you.

We would love to know what you think of our TREE products and your experience with us. If you have a chance, please visit www.lwmeasurements.com and leave a review.

Thank you for being a part of the LW Measurements family. We look forward to serving you again in the future.

All TREE products are designed in the U.S.

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