TREE®

LW MEASUREMENTS, LLC

Professional Weighing Equipment

LCT SERIES intelligent weighing scale

LARGE COUNTING SCALE
WITH CHECK-WEIGHING FUNCTION

Operation Manual

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

Models:

Imperial version		Metric version
LCT3		LCT 1500
LCT7		LCT 3000
LCT16		LCT 7500
LCT33		LCT 15000
LCT66		LCT 30000
LCT110		LCT 50000

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

Signature:

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Date: 03/18/2016

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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 (pull out 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 (pull out power adapter) and secured against inadvertent operation.

In carrying out 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 into the inside of the scale or 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 (pull out 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 be easily accessible at the workplace at all times.

Weight Scale

Construction & Functions

The weighing scale consists of the following parts;

- The scale body
- The scale-pan
- The adapter
- Operating manual.

Figure 1 Scale body & pan

Figure 2 power adapter

Functions

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

Imperial weight unit version

Model number	Capacity	Graduation	Weighing pan Size
LCT 3	3 lb.	0.0001lb	227x337mm
LCT 7	7 lb.	0.0002 lb.	227x337mm
LCT 16	16 lb.	0.0005 lb.	227x337mm
LCT 33	33 lb.	0.001 lb.	227x337mm
LCT 66	66 lb.	0.002 lb.	227x337mm
LCT 110	110 lb.	0.005 lb.	227x337mm
Net/gross weight	4.2kg / 5.1kg		
Package	Standard carton: 39 × 39 ×15.5 (cm^3)		
	2 Units in one box: 40×40×35 (cm^3)		
Operating Temp.	0-40℃(32℉-104℉)		
Power source	Rechargeable battery or AC/DC		
	Adapter 10~12V/500mA		

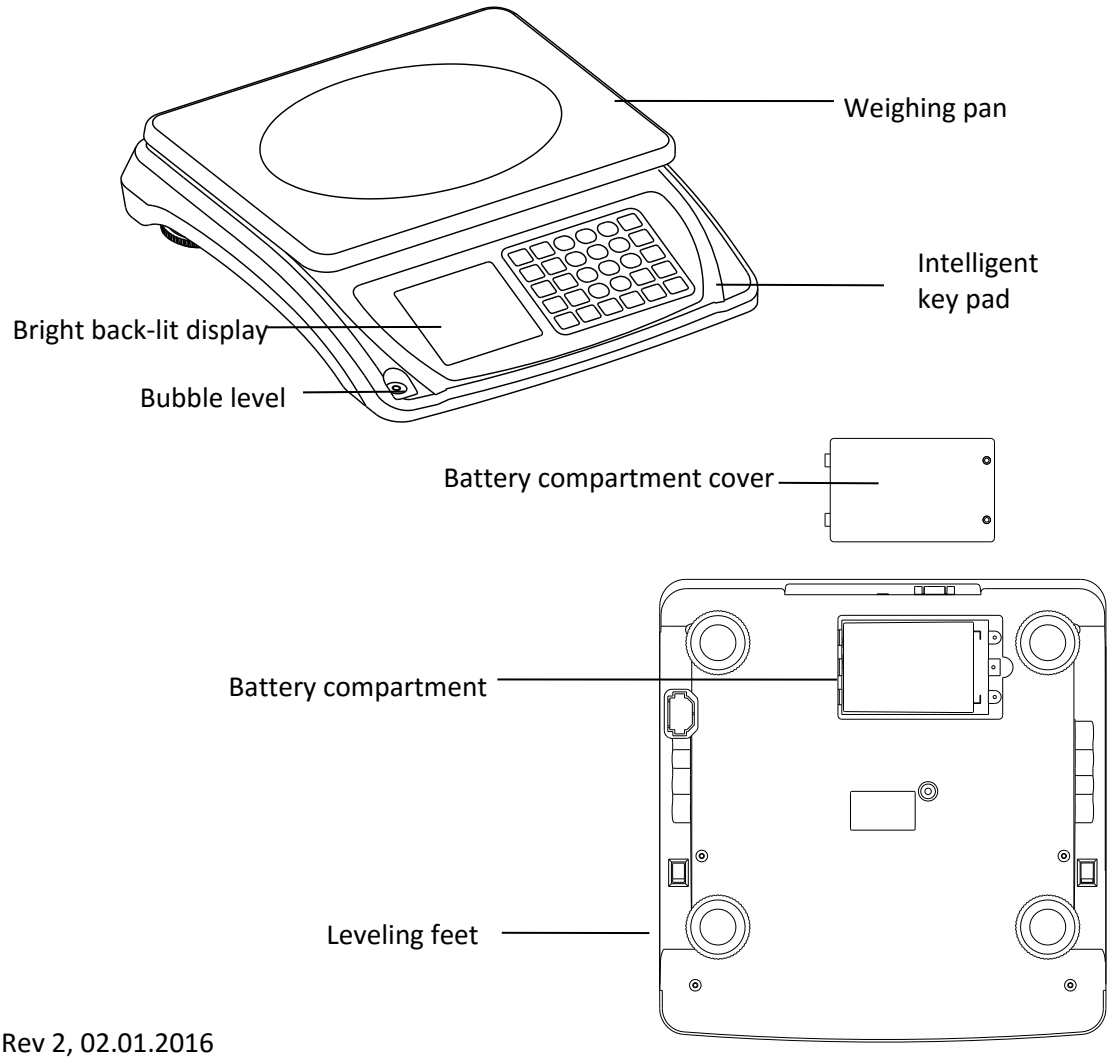
Metric weight unit version

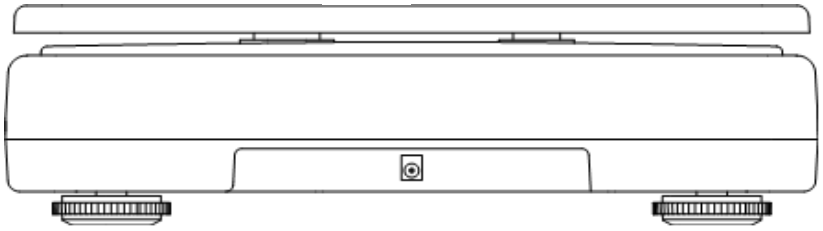
Model number	Capacity	Graduation	Weighing pan Size
LCT - 1500	1500 g	0.05 g	227x337mm
LCT - 3000	3000 g	0.1 g	227x337mm
LCT - 7500	7500 g	0.2 g	227x337mm
LCT - 15000	15 kg	0.0005 kg	227x337mm
LCT - 30000	30 kg	0.001 kg	227x337mm
LCT - 50000	50 kg	0.002 kg	227x337mm
Net/gross weight	4.2kg / 5.1kg		
Package	Standard carton: 39 × 39 ×15.5 (cm^3)		
	2 Units in one box: 40×40×35 (cm^3)		
Operating Temp.	0-40℃(32℉-104℉)		
Power source	Rechargeable battery or AC/DC		
	Adapter 10~12V/500mA		

Features

- Auto zero tracking
- Intelligent applications:, parts counting, high / low check-weighing
- Low battery indication
- Large bright backlit LCD
- Large heavy gauge stainless steel square pan
- Stability indication
- Auto calibration
- Auto back light
- Unit of measurements; kg or lb.
- Variable kg or lb. reference weight calibration software
- 1.3 million internal resolution
- 30,000 display resolution
- 24 bit A/D processor
- Highest quality sensor used
- Die cast aluminum sub-support, bottom sensor support and steel thread footing

Figure 2.2 Scale Details





Main power connection

Application & Conformity

The Following are instructions of how to correctly use the weight scale:

The weighing scale may only be used for the weighing of solid-materials and of liquids filled into secure containers.

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

In using the weighing scale in combination with other devices as well as with devices 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 or 230V AC (+/-15-20%); 50Hz to 60Hz
Output: 10v DC 500mA
Allowable ambient conditions
Temperature: 5°C. 40°C
Relative humidity: 25%... 85%, non-condensing

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 in order 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 conditions if it will not be used for an extended period of time.

In order to avoid damage, please follow the instructions provided below, when unpacking the scale:

- Unpack the scale carefully.
- When outside temperatures are very low, the scale should be stored for a couple hours and kept in its box in a dry room at normal temperature, so that no condensation settles on the unit when opening the box.
- Check the scale immediately after unpacking for any external visual damage. If there is any damage on scale, contact customer service immediately.
- 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.).
- Read through these operating instruction, before you work with the unit and pay attention to the Safety recommendations (reference Safety pg. 6).

Delivery

Inspect delivery for completeness immediately upon unpacking all components.

Checklist for complete delivery

	Component delivered 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 plastic platter on top of the scale, flat side facing up so the platter sits firmly on the machine with the four “legs” inserted into the corresponding four receptacles.
- Place the stainless steel platter on top of the plastic platter with the flat side facing up.
- Unwrap and place the clear plastic bowl, open side facing up, on top of the stainless platter.

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. Check before connecting the power adapter to the mains socket, 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 in order for the scale to work to its full potential. Certain conditions can affect the capabilities of the scale, conditions like: the 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.

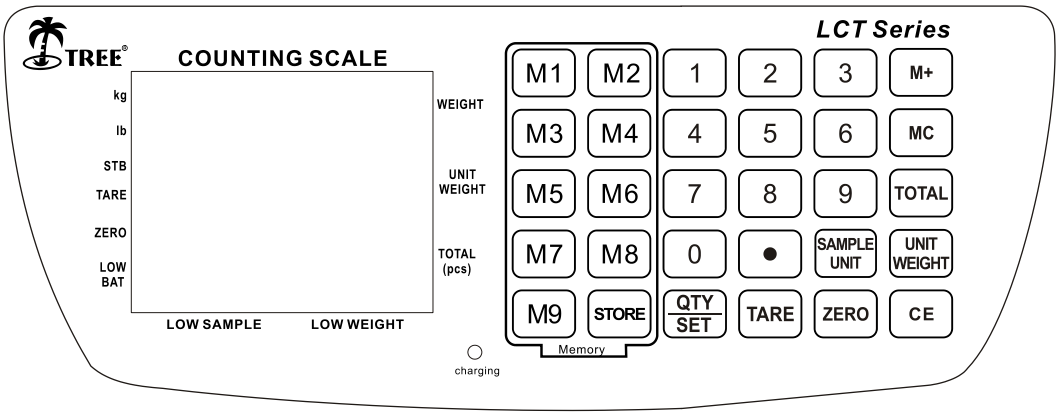
The balance is fitted with one bubble level, and adjustable feet for level-control that allow for small height differences or any unevenness in the surface on which the balance is placed.

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. 3.2)

Place the scale horizontally and keep the bubble inside the bubble level aligned with the circle (Fig.3.2). In order to get exact measurements, the balance must be carefully leveled after each re-location.

Fig. 3.2 correct leveling with the aid of the bubble level

Application Menu



Display messages & Key functions

Display messages:

- The weight display indicates the gross or net weight on the weighing pan.
- The unit weight display indicates the average or set unit piece weight.
- The total display is the accumulated total pieces on the weighing scale.
- The low sample Indicator activates when the sample number is not significant enough to allow an accurate counting.
- The low piece weight indicator activates when the sample unit weight is not significant enough for an accurate counting.

Key Functions:

- 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.
- The “Tare” key function allows the user to subtract the container value and will also set the scale at zero.
- The Numeric keys (0-9) is used for setting numeric data for sample number, sample weight or to set HI/LO settings.
- The Decimal Point “(.)” key function is used to set the decimal position of the sample weight.
- The “Sample Unit” key function is used when setting the counted sample numbers on the weighing pan into weighing scale memory.
- The “Unit Weight” key function is used when setting the known unit weight data into the weighing scale in normal operation.
- The “CE” key function is used for canceling the numeric setting data or cancels the previous unit weight data.
- The “Qty. Set” key function is used for alternating the normal count and quantity check operation.
- The “M+” Memory key function is used to store the accumulated count data, and has a storage limit of 99 items.

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:

Number setting: Counting pieces with an unknown unit weight

- Select your unit of measure (kg. or lb.), to choose between these measures press the “sample unit” key.
- 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.

Unit weight setting: Counting pieces with a known unit weight

- Press “CE” key to clear any previous setting, or to cancel the previous unit weight and sample setting. Select your unit of measure (kg. or lb.), to choose between these measures press the “sample unit” key.
- Place items on the scale.
- Key in the average piece weight using the numeric keypad. Then, press “unit weight” on the keypad.
- The total number of pieces will be displayed (more items can be added, if desired).
- Press “sample unit” key and process is complete.
- Press M+ if accumulated total is required.
- Press “CE” to return to normal operation.

Advanced Piece Counting Functions

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.

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” key and use a larger sample size (more weight), key in a sample size on the numeric keypad and press “sample unit”.

Unit Weight Enhancement

The scale will automatically adjust and calculate 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.

Low Piece Weight

The Low Piece Weight indicator will turn on if the averaged 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 error might occur.

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. This function is designed for packing and other applications.

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” button.)
- Once the CH-On is displayed, set the lower count to the desired quantity using the number key. (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 1000 qty. example, the upper limit would be 1001.)
- Press “Qty. Set” 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 pieces limit is meet.

Setting weight units
Without any weight placed on the platform, press the “sample unit” key to select the unit (kg or lb.).

Activating the Alarm
When the scale is turned off, press and hold “Unit Weight” key to turn on the scale, then press “Qty. Set” key to activate(b-ON) or deactivate (b-OFF) the function of the beeper.

Activating the display backlight
When the scale is turned off, press and hold the “Unit Weight key to turn on the scale, then press “Zero” key to select L-ON, L-AU(for auto) or L-OFF for the backlight function.

Automatic stand-by
When the scale is turned off, press and hold the “Unit Weight key to turn on the scale, then press the “Tare” key to select automatic stand-by. To return back to normal operation press the power button twice.

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 you want to use to save the information.
- 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.

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” 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.

Total Weight Pieces
To clear the total pieces from the memory “M+” 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

Using an External Calibration Weight:

Calibration is required when the weighing scale is initially installed or if the scale is moved to a substantial distance from the original location. Single segment calibration (recommended):

- Press the “Zero” button and turn the scale back on simultaneously.
- The Scale will count down and it will go to the calibration menu. Then Select the calibration unit (kg. or lb.).To change the calibration unit press the “sample” button.
- Check to make sure that the scale is stabilized then press the “Zero” button, Once it starts flashing “0”, key in how many test weights you will use to calibrate the scale. Then 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” button. Wait for a line of “0”s 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.

Linearity Calibration

(For scale technician or factory use)

- 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 AS value on the third line.
- When the AD value is stable, press Zero to calibrate Zero. After 2 or 3 seconds, the second line will sow 1, 0000. (Ex. LCT-7)
- Place a 1 kg. weight on the platter and press “Zero” when the stable A/D value is displayed. After 2 or 3 seconds, the display 2.0000.
- Place a 2 kg. weight on the platter and press “Zero” when the stable A/D value is displayed. After 2 or 3 seconds, the display will show 3.0000.
- Place a 3 kg. weight on the platter and press “Zero” when the stable A/D value is displayed. After 2 or 3 seconds, the display will show 0.0000. Calibration is now complete.
- Pres the power key twice, and place a weight on the platter to ensure weighing is correct. If not, repeat the above steps.

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 perform maintenance to 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.

⚠ CAUTION

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 the 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 which meets the following conditions:

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

Warranty

The products are under warranty against factory defects for a period of two (2) years from the date of shipment.

For Customers within the lower 48 states of the continental United States. LW Measurements will pay for fright both ways for the first 30 days after purchase. After 30 days expire the customer is responsible for shipping the product back to us. After the product is received we will inspect it and as necessary we will repair or replace and will ship the product back to the customer at our expense.

Any new scales returned for warranty must be properly packaged in the original box. If they are not properly packed an in the original box, the customer pays for shipping cost. If we determine there is a factory defect, we will pay for the shipping back. If we determine that it is not a factory defect, the customer will pay shipping.

For Customers outside the lower 48 States, including Mexico, Canada, Puerto Rico, Hawaii, Alaska and all other countries, customers must pay for shipping.

Our warranty does not cover misuse or neglect including but not limited to battery or water damage, overloading, and chewed or cut wires. If the product is found to have been misused or damaged by the customer, LW measurements is not responsible for the cost of return.

For warranty claims please go online to lwmeasurements.com and fill out the warranty submission form or call your customer service representative.