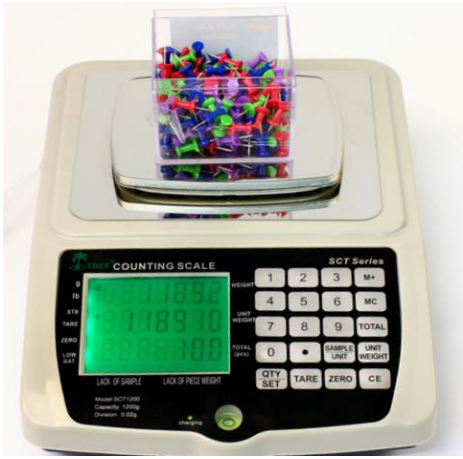
LW MEASUREMENTS, LLC

Professional Weighing Equipment
SCT SERIES Small Counting Scales

SMALL COUNTING SCALE
WITH CHECK-WEIGHING FUNCTION



Operating Manual

SCT 600g

SCT 1200g

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: SCT Small Counting Scales

Available Models

SCT 600g
SCT 1200g

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

Date: 14. 11. 2012

Signature:

Boon Lim, R & D Manager LW Measurements LLC
3510 Industrial Drive, Unit H
Santa Rosa, CA 95403

Identification

Customer Service

USA

LW Measurements LLC,
3510 Industrial Drive, Unit H
Santa Rosa, CA 95403
USA

Tel: (707) 542-2185
FAX: (707) 542-3285

EUROPE

LW Measurements Europe Ltd
Chalkwell Park House 700 London Road
Westcliff-on-Sea Essex SS0 9HQ
United Kingdom

Tel: 01702-476700
Fax: 01702-477380

ASIA

LW Measurements PTY Ltd
Block 1004, Toa Payoh North
#03-16 Singapore 318995

Tel: (65) 6458 3438
HP: (65) 8119 3401

http://lwmeasurements.com

Please refer to our website for information about local customer service centers and details of their addresses.

Introduction

What you should know about these Operating Instructions:

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 and the diverse possibilities of the weighing machine in your daily work.

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

For the labeling of potential hazards and advice, please see Safety below.

Contents

1 Safety

1.1 Representations and symbols

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

1.2 Safety recommendations

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

The weighing machine may only be used with the power adapter supplied exclusively for use with the weighing machine.

Before inserting the power adapter, the user must ensure that the operating voltage stated on the power adapter agrees 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 machine must immediately be disconnected from the electricity supply (pull out the power adapter).

The weighing machine may only be operated from mains electricity supply with a power adapter which is in perfect condition.

If there should be any reason to believe that it is no longer possible to operate the weighing machine without danger, the weighing machine is to 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 in Chapter 6 Maintenance and service.

The weighing machine 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 weighing machine or into connections on the rear of the equipment or the power adapter. If liquid is spilled on the weighing machine, it must immediately be unplugged from the mains electricity supply (pull out power adapter).

The weighing machine may only be operated again after it has first been re-checked by a service technician.

These operating instructions must be read by each operator of the equipment and must be available at the workplace at all times.

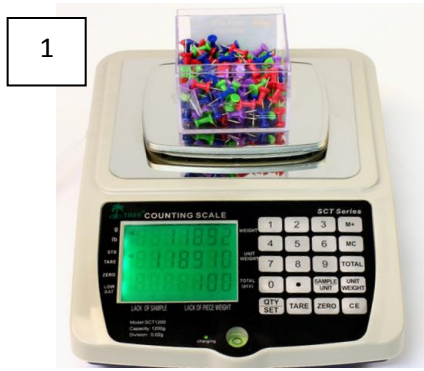
2 Your weighing machine

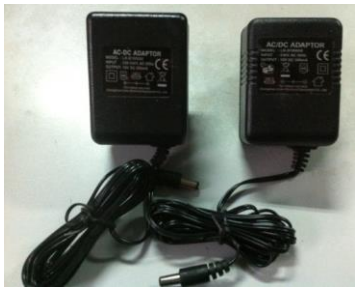
2.1 Construction and functions

2.1.1 Construction of the weighing machine

The weighing machine consists of (1) the weighing machine body and the weighing-pan, (2) the adapter and this operating manual.

Figure 2.1 Your weighing machine





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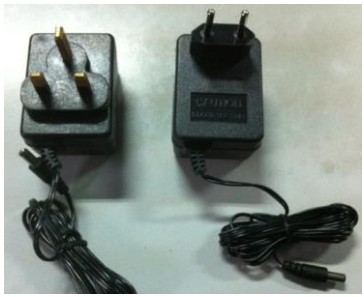


2.1.2 Function setting

- Turn off the weighing machine using the hard switch located on the bottom of the weighing machine.

- Press and hold UNIT WEIGHT key and then turn on the weighing machine. The display will show "------" and then "b = XX" (beeper), on the first line, A-XX (auto off) on the second line and L = XX (backlight) on the third line.

- Press the QTY/SET key to toggle between activating the beeper on or off.

- Press the TARE key to select auto off time.

- Press the ZERO key to toggle between activating the backlight On, Off, Auto(Au). To save your settings, and begin weighing, turn the machine off and then back on again.

- When there is no weight on the platter, press the SAMPLE/UNIT key to select the weighing unit (g or lb).

The built-in versatile weighing programs allow you to use the SCT-Series weighing machines not only for accurate weighing but also for components counting.

2.1.3 Features of the weighing machine

- Auto zero tracking
- Low battery indication
- Large LCD
- Stability indication
- Auto calibration
- Auto back light
- Unit switching g or lb

- Variable g or lb reference weight calibration software
- Pieces counting
- 1.3 million internal resolution
- 60,000 display resolution
- 24 bit A/D processor
- Highest quality sensor used
- Bottom sensor support and steel thread footing

2.2 Application, conformity

2.2.1 Correct use of the weighing machine

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

The maximum allowable load of the weighing machine must never be exceeded; otherwise the weighing machine may be damaged.

In using the weighing machine in combination with other appliances as well as with appliances 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.

2.2.2 Conformity

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

The power adapter produced for the operation of the weighing machine and intended exclusively for this application complies with the appropriate electrical protection class.

2.3 Data and parameters

The following applies to all SCT series weighing machines

Power supply:

. Input: 110 or 230V AC (+/-15-20%); 50 to 60Hz
. Output: 10v DC 500mA

Allowable ambient conditions

Temperature: 32 - 104ºF 0°C - 40°C
Relative humidity: 25% - 85%, non-condensing

2.3.1 Technical data

The SCT Series are high-quality electronic precision weighing machines designed to function as counting machines and check-weighers with the following specifications:

1. Complete Specifications

Model number	Capacity	Division	Weighing pan Size
SCT-600	600 g	0.01g	5.3 x 4.7 in
SCT-1200	1200 g	0.02 g	5.3 x 4.7 in
Package Standard carton	15 x 11 x 7 in^3		
Package Master carton	4 Units in one box: 21 x 14 x 15 in^3		
Shipping weight	7 lbs/single unit 30 lbs/master carton		
Operating Temperature	32-104 ^oF		
Power Source	Rechargeable batteries or AC/DC Adapter 10V DC 500mA		

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

3 Getting started with your weighing machine

3.1 Unpacking the equipment

The machine is delivered in an environmentally-friendly carton, specifically developed for this precision instrument, which provides optimum protection for the machine during transportation.

We suggest that you retain the original packaging in order to avoid transportation damage if re-shipping or transporting the weighing machine, and to allow the machine to be stored in the best conditions if it is out of operation for an extended period of time.

In order to avoid damage, attention must be given to the following points when unpacking the machine:

- Unpack the weighing machine carefully. It is a precision instrument.

- When outside temperatures are very low, the weighing machine should first be stored for some hours in the unopened transport package in a dry room at normal temperature, so that no condensation settles on the machine when unpacking.

- Check the weighing machine immediately after unpacking for externally visible damage. If you should find transport damage, please inform your service representative immediately.

- If the machine is not to be used immediately after purchase but rather at a later time, it should be stored in a dry place where fluctuations in temperature are as small as possible (see Chapter 7 .Transport, storage.).

- Read through these operating instructions even if you already have prior experience with weighing equipment, before you work with the weighing machine and pay attention to the Safety recommendations (see Chapter 1 .Safety).

3.2 Scope of delivery

Inspect delivery for completeness immediately upon unpacking all components.

Checklist for complete delivery

	Component delivered present yes / no
Weighing unit body	
Weighing platter	
Power adapter	
Operating manual	

3.3 Assembling your weighing machine

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

- Place the unit body in position and add the weighing platter.
- Insert the power adapter cable plug into the socket at the rear of the balance.

3.4 Choice of a suitable location

The environment in which your weighing machine is used is very important. Air movement, temperature changes, vibrations, direct sunlight, etc. all influence the performance of high precision weighing machines. Therefore, place your weighing machine on a solid, sturdy surface that is free of air currents, vibration and not in direct sunlight. The surface should not be magnetic and should be located away from doors, windows, heaters, air conditioners and fans.

To summarize:

- Put the weighing machine on a solid, firm and preferably vibration-proof, horizontal base.
- Make sure that the weighing machine cannot be shaken, bumped or knocked over.
- Protect from direct solar radiation at all times.
- Avoid drafts and excessive temperature fluctuations.

3.5 Checking the mains voltage

The following Safety recommendations must be observed when connecting the balance to the mains:

⚠ DANGER

The weighing machine may only be operated with the power adapter supplied.

Check before connecting the power adapter to the mains supply, that the operating voltage stated on the power adapter agrees with the local mains voltage.

If the operating voltage is not the same as the mains voltage, the power adapter must, on no account, be connected to the mains supply. Contact customer service.

3.6 Leveling the weighing machine

To function properly, the machine must be precisely horizontal. The weighing machine is fitted with one bubble level and adjustable feet for level-control, with the aid of which it is possible to compensate for small height differences and / or any unevenness in the surface on which the machine is positioned.

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)

Place the scale horizontally and keep the bubble inside the bubble level aligned with the red circle (See Fig.1). In order to get exact measurements, the balance must again be carefully leveled after each relocation.

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

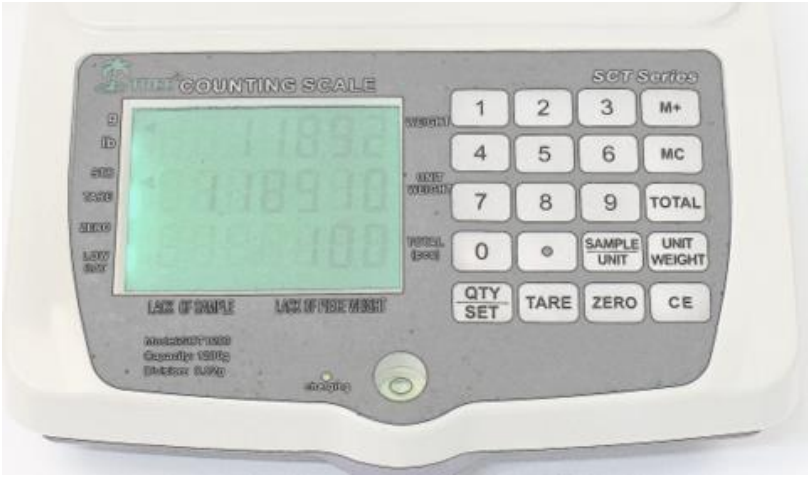
(Fig.1)

3.7 Calibration of the weighing machine

Since the Earth's gravity is not the same everywhere, each weighing machine must be adjusted to compensate for the gravity differences at each location in accordance with the underlying physical weighing principles. This adjustment process is known as calibration and must be carried out on initial installation and after each subsequent relocation.

In order to ensure exact measurements, it is recommended that the weighing machine should be calibrated regularly using a known external calibration weight (see Section 5 below).

4 Working with the application menu using the Numeric Key-Pad



4.1 Display messages and key functions

4.1.1 Display messages

- WEIGHT DISPLAY indicates the gross or net (when the tare function is activated) weight on the platter.
- UNIT WEIGHT DISPLAY indicates the average or set unit piece weight.
- TOTAL DISPLAY is the accumulated total pieces on the platter.
- ZERO INDICATOR turns on when the machine is in the Zero position.

- TARE INDICATOR turns on when the Tare function is used.

- LOW SAMPLE WEIGHT INDICATOR turns on when the sample number is not enough for accurate weighing. The weighing machine will start counting but the error may be high. Press the CE key to clear and start over.

- LOW UNIT VALUE INDICATOR turns on when the sample unit is not heavy enough for accurate counting. Operator may still use the weighing machine if this indicator is on, but counting error might occur.

4.1.2 Key functions

-NUMERIC (0-9) KEY is used for setting numeric data for sample number, sample weight or to limit the HI/LO settings.

- DECIMAL POINT (.) KEY is used to set the decimal position of the sample weight

- ZERO KEY sets or re-adjusts the machine into the correct zero position.
  - **Zero Range: 0-10% of full capacity**

- TARE KEY subtracts the gross weight on the platter (box or container, etc) to the tare weight.
  - **Tare Range: 10-100% of full capacity. Multiple TARE allowed within capacity.**

- SAMPLE UNIT KEY is used when setting the counted sample numbers on the platter into memory.

- UNIT WEIGHT KEY is used when setting the known unit weight data on the machine during normal operation.

- CE KEY is used for cancelling the numeric setting data or to cancel the previous unit weight data.

- QTY/SET KEY is used to alternate between normal counting and quantity check operation.

- [M+] MEMORY KEY is used to store the count data, and can store up to 99 data sets .

4.1.3 Clearing the total weight

- Press the TOTAL key to show the total pieces on the third line of the display.

- Press the MC key to show the unit that will be cleared.

- Press the CE key to confirm clear.

5 Operation

5.1 Tare

5.1.1 Clearing tare weight

- Place an empty container on the platter. Press the TARE key. The WEIGHT display shows 0.000.

- When the container is removed from the platter, the WEIGHT display will show a minus (-) value which is the weight of the container.

5.1.2 Clearing previous tare value

- Remove the weight from the platter then press the TARE key so that the TARE indicator will turn off and the WEIGHT display returns to Zero.

5.2 Sample setting (there are two sample setting methods)

5.2.1 Number setting: (when counting any unknown weight)

- Place the pre-counted “X” number of samples on the platter. The total weight will be displayed. Set the “X” number of samples by using the numeric keys and then press the SAMPLE/UNIT key.

- UNIT WEIGHT on the display shows the average piece weight of the sample.

- TOTAL (pcs) on display will show the number of pieces included in the sample, place more pieces on the platter to be added to the total sample count.

5.2.2 Unit weight setting: (when unit weight is known)

- Place samples on the platter. Using the numeric keypad, key in the average piece weight. Press the UNIT WEIGHT key on the keypad.

-TOTAL (pcs) on the display will show the total number of pieces. Add on more pieces to be counted.

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5.2.3 Clearing previous Sample setting

- Press CE key to clear previous setting.

-Press [CE] again to cancel the previous unit weight and sample setting.

5.3 Alarm function

- To avoid counting errors, this weighing machine has a useful alarm function to inform the operator of counting errors in the event of low sample size or low sample weight.

5.4 Unit Weight Enhancement

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

5.5 Hi / LO check-weighing with counting

-The SCT series has a useful check function to inform the operator if the total pieces counted has reached the desired lower limit and/or the upper limit. This function is designed for packaging applications.

EXAMPLE: If the operator wishes to count 1,000 pieces for every package, he/she can set the lower limit and the upper limit as 1,000 pieces by:

- Press the QTY/SET key to enter the quantity alarm menu.

- Press the ZERO key to turn on the check weighing. Display will show CH=ON. Press the ZERO key if the display shows CH=OFF. The Zero key will toggle between having the quantity alarm on or off.

- To set the lower and upper count limit, press the TARE key to select the hi/lo limits. For example, "L = 990," press 990 on the numeric keypad, then TARE to switch over to :H = 1010," press 1010 on the numeric keypad.

- Press the QTY/SET key to confirm and return to counting mode. The alarm will beep at below 990 pieces and at a different tone for more than 1010 pieces.

6 Calibration - Using an External Calibration Weight:

Note: Calibration may be required when the weighing machine is initially installed or if it has been moved a substantial distance. The weighing machine should be allowed to warm up for 10 minutes before calibration.

6.1 Single segment calibration (recommended)

- Press and hold the ZERO key, and then press the ON/OFF key to turn the weighing machine on. The display will show SCALE on the first line, CAL-0 (flashing) on the second line and the AD value on the third line.

- Press the SAMPLE/UNIT key to select the calibration unit to be used as either g or lb.

- When the AD value is stable, press the ZERO key to calibrate ZERO. After 2-3 seconds, the second line will show 0.

- Set the calibration weight by using the numeric key pad (0-9) and then place the calibration weight on the platter. Once the stable indicator light is displayed, press the ZERO key. The second line of display will show 00000. Calibration is now complete.

- Turn off the power, then turn it back on again. Place a weight on the platter to ensure weighing is correct. If not, repeat the above steps.

6.2 Linearity calibration (for scale technician or factory use)

- Turn on the weighing machine and then turn it off.
- Press and hold the TARE key and then turn on the machine. The display will show LINE on the first row, CAL-0 (flashing) on the second line and AD 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 show 200. (ex. SCT 600)
- Place a 200g weight on the platter and press ZERO when the stable A/D value is displayed. After 2 or 3 seconds, the display will show 400.
- Place a 400g weight on the platter and press ZERO when the stable A/D value is displayed. After 2 or 3 seconds, the display will show 600.
- Place a 600g weight on the platter and press ZERO when the stable A/D value is displayed. After 2 or 3 seconds, the display will show 00000. Calibration is now complete.
- Turn off the power, then turn it back on again. Place a weight on the platter to ensure weighing is correct. If not, repeat the above steps.

7 Maintenance and service

The weighing machine must be treated carefully and cleaned regularly. It is a precision instrument.

⚠ DANGER

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

Take care during cleaning that no liquid penetrates into the weighing machine. If liquid is spilled on the machine, the latter must immediately be disconnected from the electricity supply. The machine may only be used again after it has first been checked by a service engineer.

The connections on the rear of the appliance and the power adapter must not come into contact with liquids.

Regularly remove the weighing platter and remove any dirt or dust from under the platter and on the weighing machine housing with a soft brush or a soft, lint-free cloth, moistened with a mild soap solution. The platter can be cleaned under running water.

Take care that the platter is completely dry before it is re-installed on the weighing machine.

⚠ CAUTION

Never use solvents, acids, alkalis, paint thinners, scouring powders or other aggressive or corrosive chemicals for cleaning, since these substances attack the surfaces of the scale housing and may cause damage.

8 Transport, storage

8.1 Transportation and shipping of the weighing machine

Your weighing machine is a precision instrument. Treat it carefully. Avoid shaking, severe impacts and vibration during the transportation.

Take care that there are no marked temperature fluctuations during the transportation and that the weighing machine does not become damp (condensation).

8.2 Storage of the weighing machine

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 (see Section 6.Maintenance and servicing.) 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

The weighing machine should preferably be dispatched, transported and stored in the original packaging to avoid any damage. This provides optimal protection for the weighing machine.