TREE®
by LW MEASUREMENTS LLC

DCT SERIES

Dual Counting Scale

DCT 50 / DCT 110

Operating Manual

Professional Weighing Equipment

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

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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: **DCT** - Dual Counting Scale

Available Models:

DCT-50
DCT-110

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

Signature:

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Date: 04/27/2014

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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 scale 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, please refer to the safety section of this operation manual.

Safety

Representations and 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 complies 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 the 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 with explosion risks.

Care must be taken when weighing liquids to ensure that no liquid is spilled inside of 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 the power adapter).

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

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

Weight Scale

Construction & Functions

The weighing scale consists of the following parts.

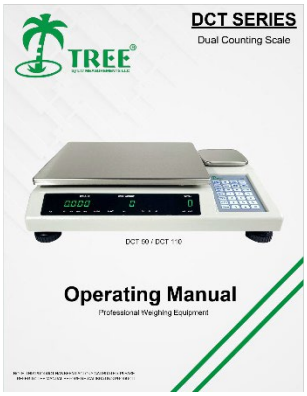
1. **The weighing scale body**
2. **The scale pans**
3. **The AC power adapter**
4. **Operating manual**
5. **Test weight**

2

1

3

4



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Functions

The DCT Series are high-quality electronic precision weighing scales designed to function as counting scales with the following specifications.

Specifications:

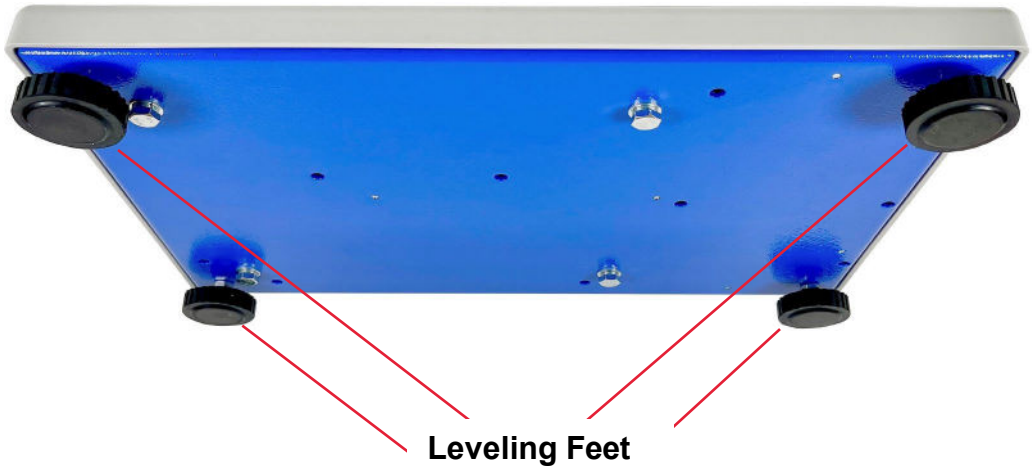
Model Number	Capacity	Division	Weighing Pan Size
DCT-50	50lb/2lb	0.001lb./0.00005lb	13.6 x 10.1/4.48 x 4.48
DCT-100	100lb/4lb	0.002lb/0.0001lb	13.6 x 10.1/4.48 x 4.48
Package (Standard Carton)	22x16x7 inches		
Package (Master Carton)	2 units in one box: 22x16x15 inches		
Operating Temperature	0°C - 40°C (32℉-104℉)		
Power Source	Rechargeable batteries or AC/DC Adapter 12V/1A		

FEATURES

1. Auto zero tracking
2. Intelligent applications: weight unit conversion, parts counting
3. Low battery indication
4. Large LED
5. Large heavy gauge stainless steel square pan
6. Second smaller heavy gauge stainless steel pan
7. Stability indication
8. Unit switching kg or lb.
9. Variable kg or lb. reference weight calibration software
10. 1.3 million internal resolutions
11. Selectable display resolutions, 50000d, 25000d, 10000d, 6000d, 5000d etc.
12. 24-bit A/D processor
13. Highest quality sensor used
14. Die-cast aluminum sub-support, bottom sensor support, and steel thread footing.
15. Ability to enter unit piece weight on numeric keyboard.
16. Ability to enter tare weight on numeric keyboard.
17. Print out change from kg to g.

Details of your weighing scale

1. 3rd Scale Base
2. RS232
3. USB
4. AC Power
5. On/Off Switch



Application & Conformity

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

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

The maximum capacity 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 must be observed, along with their application in accordance with the instructions.

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

The power adapter provided for the operation of the weighing scale complies with the appropriate electrical protection class.

The following applies to all DCT series weighing scales.

Power Supply:

Input: 110V/AC 50Hz to 60Hz

Output: 12VDC/1A

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

Allowable ambient conditions:

Temperature: 0°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 scale 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 preserve its 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 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. 29).

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 the delivery immediately upon receipt by unpacking all components to ensure completeness.

Checklist for complete delivery

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

Assembly & Installation

The weighing scale is delivered partially dismantled. Assemble the individual components in the following sequence:

1. Place the scale on a level, clean, and dry surface to ensure accurate readings.
2. Position the stainless-steel platters with the flat sides 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 that the operating voltage stated on the power adapter complies with the local mains voltage.

If the operating voltage does not match the mains voltage, the power adapter must not be connected to the mains socket. Contact customer service for assistance.

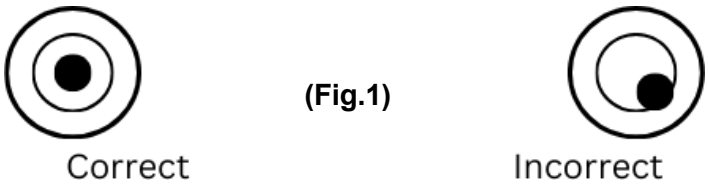
Placement of Scale

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

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 (Fig.1). To get exact measurements, the balance must be carefully leveled after each re-location.

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Display Messages

- **kg -** Kilograms (1000 grams) is a unit of measurement.
- **lb. -** Pounds (16 ounces) is a unit of measurement.
- **stb -** Stable indication
- **Zero -** ZERO INDICATOR turns on when the scale is in the zero position.
- **Tare -** TARE INDICATOR turns on when this function is used.
- **LoUW -** Turns on when sample unit weight is not heavy enough for accurate counting.
- **LoWT -** Turns on when the sample number is not enough for accurate counting.
- **M+ -** Is used when storing the counts data; this data is memorized by pressing this key and can be accumulated up to *99 times*.
- **S1 -** SCALE 1 working state.
- **S2 -** SCALE 2 working state.
- **S3 -** SCALE 3 working state.
- **LoB -** Low battery voltage, please charge battery.
- **CHG -** Charged state: The red LED lights up while charging. When the battery is fully charged, the red and green LED lights flash alternately.

Key Functions

1. [SCALE SELECT] Press this button to select the available counting scale among **Scale 1**, **Scale 2**, and **Scale 3**. You can only choose to use one at a time.

→ **SCALE 1**: Main counting scale, the biggest platform

→ **SCALE 2**: The smaller counting scale offers more accuracy.

→ **SCALE 3**: Extra connection platform. When we get the sample weight from **SCALE 1 or 2**, we can use this platform to count more samples.

→ **Scale/Select Operation**: Press [SCALE SELECT] key. The weight line will flash **SCALE 1** press [SCALE SELECT] key to select then press [ENTER] key to confirm.

2. [UNITS] Key changes the unit of measure between kg. and lbs.

3. [ZERO] Key sets display to zero or subtract the container weight. The **Zero Range** is **<10%** of full capacity. The zero LED indicator will illuminate when you activate the **Zero Function**.

4. [TARE] Key subtracts the weight of a container placed on the weighing platform. The tare range is **100%** full capacity. Press the [TARE] key to enable the **Auto-Tare Function**, the Tare LED indicator will illuminate when you activate the **Tare Function**.

→ **Tare Operation 1**: Turn on the scale and wait for **"ZERO Mode"** then place container on the platform and press [TARE] key. The weight line will flash **0.0000**, and the tare LED indicator will light up when you activate it.

→ **Tare Operation 2** : New version function. Turn on the scale and wait for "**ZERO mode"**, key in the number of tare, press [TARE] key, **WEIGHT DISPLAY** line will show - **X.XXX**, **ZERO** LED indicator will light up when you activate it.

5. [PRINT] Key is used to transmit data to a printer, computer, or other device. It should be connected to **PC** or **printer** by **USB** or **RS232**, for this key to operate.

6. [ENTER] Key has the same function as it would on a computer keyboard.

7. [MEM STORE] Key is the **SAMPLE WEIGHT MEMORY KEY**. Press this key to memorize sample weight, scale can memorize up to **16** different sample weights.

→ ***Example***: If you want to store sample weigh **0.22047 (1/1000 lb.)** at place **7**, please operate as below:

→ Press [MEM STORE], **WEIGHT DISPLAY** will show flashing [**01**], press [*] to select storage place **7** then press [ENTER] to confirm.

8. MEM READ Key is the **SAMPLE WEIGHT READ KEY**. Press this key to recall the memorized sample weight. If more than one sample weight is memorized continue to press this key until the correct sample weight is selected.

→ **MEM/READ Operation**: Input unit weight storage placed by number key then press MEM READ key to store unit weight.

9. M+ The **MEMORY KEY** is used to store counting data. This data is memorized by pressing this key and can be saved in the memory up to 99 times.

→ **M+ operation**: Place weight then press M+, **WEIGHT DISPLAY** line will show how many times **=XX=, UNIT WEIGHT** line shows "Add", press ENTER key to confirm it and back to **Counting Mode**. **M+** LED indicator will light up when you activate it. Press TOTAL key to call out the total value of accumulation.

10. MC Key is used to clear the stored counting data.

→ **MC Operation**: Press the MC key when the **M+** LED lights up, the **WEIGHT DISPLAY** line will show how many times **=XX =**, when the **UNIT WEIGHT DISPLAY** line flashes "**CLr**", press ENTER to turn light off.

11. SAMPLE Key is used when setting the counted number of samples on the platter into the scales memory.

12. UNIT WEIGHT Key is used when setting the known unit weight data into the scale during normal operation. (**1/1000kg or 1/1000lb**)

13. QTY SET Key is used to switch between the piece counting function and quantity check weighing function. A warning setting of minimum or maximum weight.

→ Press QTY SET key the display will show **CH=OFF**, press the ENTER key to select **CH=ON**. Then press ✱ key. **UNIT WEIGHT DISPLAY** line flashes, press ***NUMERIC KEY*** to input **Minimum Weight**. Press ✱ key **TOTAL DISPLAY** line flashes, press number key to input **Maximum Weight**. Press QTY SET key to exit setting mode and back to **Weighing Mode**.

→ If the weight placed on the scale is under the set **Minimum** on counting mode, the scale will transmit a tone. Also, if the weight placed on the scale exceeds **Maximum** weight, the scale will transmit another tone.

14. ***NUMERIC KEYS*** **(0-9):** Are used for setting numeric data for sample numbers, sample weights or to set a limit for the **HI/LO** settings.

15. ✱ Key is used to change the division when the scale is in **SCALE 3** mode.

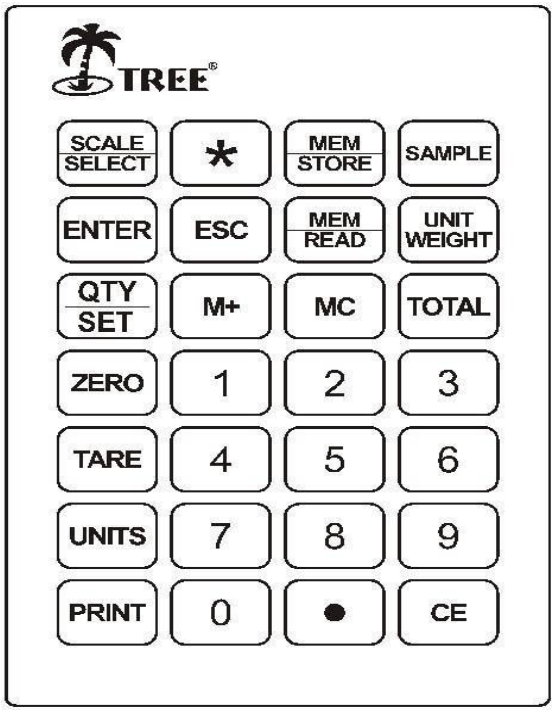
16. [TOTAL] Key displays the accumulated total pieces on the scale.

17. [ESC] Key is used to exit from the current menu.

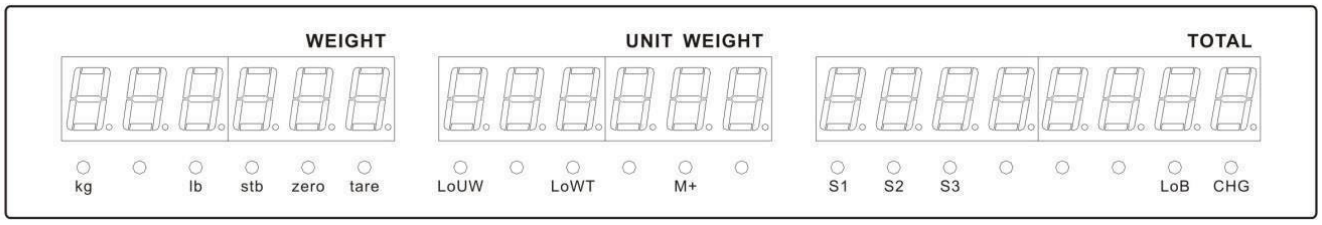
18. [CE] Key is used for cancelling the numeric setting data or cancelling the previous unit weight data.

19. [•] Key function is used to set the decimal position of the sample weight.

Full Keypad



Weight Display Unit Weight Display Total Weight Display



Program Options

Besides performing accurate simple weighing, your versatile weighing scale can also perform piece counting.

Piece Counting

Counting pieces with known sample unit weight

- Turn the scale **ON** and let it warm up for about **1 minute**.
- Wait for "**0**" to appear on the display. If necessary, press ZERO key to set the display to "**0**". Key in unit weight, press UNIT WEIGHT key to confirm.
- Store the unit weight by pressing MEM STORE key, the display will show a flashing number for example "**01**", this is the location where the stored sample unit weight can be found. Press ✱ key to toggle between 01-16, press the ENTER key to confirm the selection.
- Press the SCALE SELECT key to select either **SCALE 1** or **SCALE 3**, be sure to place the additional pieces on the scale that is selected.

  ****NOTE: The items being weighed should be within the selected scales capacity.****

Counting pieces without known sample unit weight

- Turn **ON** the power at the left back side of the scale and let it warm up for about **1 minute**.
- Wait for "**0**" to appear on the display. If necessary, press ZERO key to set the display to "**0**".
- Press SCALE SELECT key to select **SCALE 2**, press ENTER to confirm.
- Put a pre-known number of samples onto **SCALE 2,** key-in the known number using the ***NUMERIC KEYS***.
- Press SAMPLE to get the sample unit weight.
- Press the SCALE SELECT key to select either **SCALE 1** or **SCALE 3**, be sure to place the additional pieces on the scale that is selected, it will display the total number of items.

  ****NOTE: The items being weighed should be within the selected scales capacity.****

Select a pre-stored unit weight.

Key in the number of the pre-stored weight (01-16) using the ***NUMERIC KEYS***, press MEM READ key and select the pre-stored sample unit weight, press ENTER to confirm.

High/Low Check Weighing with Counting

- Turn **ON** the power at the left back side of the scale and let it warm up for about **1 minute**.
- Wait for "**0**" to appear on the display. If necessary, press ZERO key to set the display to "**0**".
- Press QTY SET key, display will show **CH=OFF** or **CH=ON.**
- Press the ENTER key to select "**ON**."
- Press * key, **UNIT WEIGHT DISPLAY** will show a flashing "**0**", key in the lower limit using the ***NUMERIC KEYS***, press * again, display will show a flashing "**0**" at **TOTAL**, key in the upper limit using the ***NUMERIC KEYS*.**
- Press QTY SET key to confirm the setting and return to weighing mode.

→ Press the SCALE SELECT key to select either **SCALE 1** or **SCALE 3**, be sure to place the additional pieces on the scale that is selected.

****NOTE: When adding items onto the scale, the scale will beep in a particular tone if the weight (number of items) is less than the lower limit and beep in another tone if it is higher than the upper limit.****

Calibration

Calibration is done in the factory. Don't recalibrate 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.****

Scale 1 Calibration

- Turn **ON** the power at the left back side of the scale and let it warm up for about **1 minute**.
- As the scale is counting down, press the following buttons in order. 1 3 1 1 then press ENTER key.
- The display will show the following:
- **WEIGHT DISPLAY** shows **SCALE 1**,
- **UNIT WEIGHT DISPLAY** shows **CAL-0**,
- **TOTAL DISPLAY** shows **A/D Value**.
- Press the UNITS key to select a **Unit of Measure (kg. or lb.)**
- Press ENTER to set **Zero Point** (**UNIT WEIGHT DISPLAY** will show **CAL-0** flashing for a few seconds and then changes to **XXXX** to set the **Calibration Weight**.)
- Press the CE key and then press the corresponding ***NUMERIC KEYS*** based off the weight you are using to calibrate.

  (Example: If you are using **5lbs** to calibrate the scale you would key in **5lbs**).
- The calibration weight will show in the **UNIT WEIGHT DISPLAY**, place the corresponding weight on scale.
- Press the ENTER key, and the **UNIT WEIGHT** display will show flashing **XX** and then changes to **XX.XXXlb**.
- Once this occurs the **calibration** process is **complete.**

****NOTE: Make sure nothing is on the platform before you are asked to place the calibration weight. Once calibration is complete, you will need to reboot the scale and place the sample test weight on the platter to ensure the calibration was completed correctly.****

Scale 2 Calibration

- Turn **ON** the power at the left back side of the scale and let it warm up for about **1 minute**.
- As the scale is counting down, press the following buttons in order. 1 3 1 2 then press the ENTER key.
- The display will show the following:
- **WEIGHT DISPLAY** shows **SCALE 2**,
- **UNIT WEIGHT DISPLAY** shows **CAL-0**,
- **TOTAL DISLAY** shows **A/D Value**.
- Press ENTER to set **Zero Point** (**UNIT WEIGHT DISPLAY** will show **CAL-0** flashing for a few seconds and then changes to **XXXX** to set the **Calibration Weight**.)
- Press CE key and then press corresponding ***NUMERIC KEYS*** based off the amount of weight you are using to calibrate.

  (Example: If you are using **1lb** to calibrate the scale you would key in **1lb**).
- The calibration weight will show in the **UNIT WEIGHT DISPLAY**, then place the corresponding weight on the scale.
- Press the ENTER key button, the **UNIT WEIGHT DISPLAY** will show flashing **XX** and then place the corresponding weight on the platform, and it will change to **XX.XXXlb.**
- Once this occurs the **calibration** process is **complete**.

****NOTE: Make sure nothing is on the platform before you are asked to place the calibration weight. Once calibration is complete, you will need to reboot the scale and place the sample test weight on the platter to ensure the calibration was completed correctly.****

Scale 3 Calibration

First make a connection to SCALE 3 through DB9

SCALE 3 DB9	Load Cell DB9
1 S-	1 S-
2 S+	2 S+
3/6 V+	3/6 E+
4 V-	4 E-
5 GND	5 GND
7-9 NC	7-9 NC

After the connection is made follow these steps.

- Turn **ON** the power at the left back side of the scale and let it warm up for about **1 minute**.
- As the scale is counting down, press the following buttons in order. 1 3 1 3 then press ENTER key.

The following must be completed before beginning the calibration process for SCALE 3:

- **WEIGHT DISPLAY** shows **SCALE 3**
- **UNIT WEIGHT DISPLAY** shows "**XXXX**" (this is the **Full Capacity** of **SCALE 3**)
- **TOTAL DISPLAY** will show "**d=xx**" (this is the **Divisions** of **SCALE 3**)
- Press UNITS key to select **Full Capacity** in a **Unit of Measure (kg**. or **lb**.)
- Press the CE key to set the **Full Capacity**, key in the number through the ***NUMERIC KEYS***.
- Press * to set the division and key in the number through the ***NUMERIC KEYS***.
- Press ENTER to **confirm**.

Now begin the calibration process:

- Press UNITS key to select a **Unit of Measure** (**kg**. or **lb**.)
- Press ENTER to set **Zero Point** (**UNIT WEIGHT DISPLAY** will show **CAL-0** flashing for a few seconds and then changes to **XXXX** to set the **Calibration Weight**.)
- Press CE key and then press the corresponding ***NUMERIC KEYS*** based off the weight you are using to calibrate.

  (Example: If you are using **1lb** to calibrate the scale you would key in **1lb**).
- The calibration weight will show in the **UNIT WEIGHT DISPLAY**, then place the corresponding weight on scale.
- Press the ENTER key, the **UNIT WEIGHT DISPALY** will show flashing **XX** and then changes to **XX.XXXlb**.
- Once this occurs the **calibration** process is **complete**.

****NOTE: Make sure nothing is on the platform before you are asked to place the calibration weight. Once calibration is complete, you will need to reboot the scale and place the sample test weight on the platter to ensure the calibration was completed correctly.****

Linearity Calibration

This calibration is to be completed by a trained scale technician.

Scale 1 Linearity Calibration

- Turn **ON** the power at the left back side of the scale.
- Press the following buttons in order.
  1 3 1 4 then press the ENTER key.

MENU Setting:

- **WEIGHT DISPLAY** shows **LINE 1**
- **UNIT WEIGHT DISPLAY** shows **0.0000.**
- **TOTAL DISPLAY** will show **A/D Value**.
- Then press UNITS button to select **Calibration Units** between **kg** and **lb**.

Calibration:

- **Make sure nothing is on the bigger platform.**
- Press ENTER button to set **Zero Point** (**UNIT WEIGHT DISPLAY** will show **0.0000** flashing for few seconds and then changes to **XX.XX** to set the **Calibration Weight**.)
- Press the ENTER key button, the **UNIT WEIGHT DISPLAY** will show flashing **XX** and then put the according weight on the platform, and it will change to **XX.XXXlb.**
- Once this occurs the **calibration** process is **complete**.

Scale 2 Linearity Calibration

- Turn **ON** the power at the left back side of the scale.
- Press the following buttons in order.
  1 3 1 5 then press the ENTER key when the scale is examining itself.

MENU SETTING:

- **WEIGHT DISPLAY** shows **LINE 1**
- **UNIT WEIGHT DISPLAY** shows **0.0000**.
- **TOTAL DISPLAY** will show **A/D Value**.

- Then press UNITS button to select **Calibration Units** between **kg** and **lb**.

CALIBRATION:

- **Make sure nothing is loaded on the bigger platform**.
- Press ENTER button to set **Zero Point** (**UNIT WEIGHT DISPLAY** will show **0.0000** flashing for few seconds and then changes to **XX.XX** to set the calibration weight.)
- Press the ENTER key button, the **UNIT WEIGHT DISPLAY** will show flashing **XX** and then put the according weight on the platform, and it will change to **XX.XXX lb.**
- Once this occurs the **calibration** process is **complete**.

Scale 3 Linearity Calibration

- Turn **ON** the power at the left back side of the scale.
- Press the following buttons in order 1 3 1 6, then press the ENTER key when the scale examines itself.
- **WEIGHT DISPLAY** shows **SCALE3**.
- **UNIT WEIGHT** display shows "**xxxx**" (this is the overweight value of **SCALE 3**)
- **TOTAL DISPLAY** will show "**OVr**" (It means overweight).
- Press UNITS key to select the overweight value in a unit of measure (**kg.** or **lb.**)
- Press the CE key to set the overweight value, key in the number through the numeric keypad.
- Press * key, **UNIT WEIGHT** display shows "**xxxx**" (this is the full capacity of **SCALE 3**).
- **TOTAL DISPLAY** will show "**CAP**" (this is the full capacity).
- Press UNITS key to select the full capacity in a unit of measure (kg. or lb.)
- Press the CE key to set the full capacity, key in the number through the numeric keypad.
- Press * key, **UNIT WEIGHT** display shows "**x.x**" (this is the division of **SCALE 3**).
- **TOTAL DISPLAY** will show "**div**" (this is the division).
- Press ENTER key to change the division.
- Press * key, **UNIT WEIGHT** display shows "**x**" (This means to calibrate in several sections). Press ENTER key to choose.

- Press [✻] key, **UNIT WEIGHT** display shows “**xx**” (This is the gain. No adjustment is recommended).

CALIBRATION:

- Make sure nothing is loaded on the platform. **(Ex. The full capacity is 100kg)**
- Press [✻] key, **UNIT WEIGHT** display shows “**LInE**”.
- Press [ENTER] key, the **UNIT WEIGHT** display will show flashing **50.00kg**, and then put the accordingly weight on the platform.
- Press the [ENTER] key and the display will show flashing **100.00kg**, put the corresponding weight on the platform,
- Press the [ENTER] key. After **2** or **3 seconds**, the scale will return to weighing mode and display shows **100.00kg**.
- The linearity calibration process is complete.

Change Capacity/Division

- Turn **ON** the power at the left back side of the scale.
- Press 1 4 1 1 then press the ENTER button when the scale is examining itself.
- **WEIGHT DISPALY** show **Scale 1**
- **UNIT WEIGHT DISPLAY** shows capacity **50 lb.**
- **TOTAL DISPLAY** will show division **0.002.**
- Press SCALE SELECT key.
- Select from **Scale 1** or **Scale 2**.
- Press ENTER to change settings.
- **Scale 1 TOTAL WEIGHT DISPLAY** will show division **(0.001, 0.01, 0.005, 0.002) 1/1000lb.**
- **Scale 2 TOTAL WEIGHT DISPLAY** will show division **(0.0001, 0.00005, 0.0005, 0.0002) 1/1000lbs.**
- **REBOOT** after change.

CHANGE CAPACITY:

(DO NOT USE THIS FUNCTION UNLESS NECESSARY) ONLY FOR PRODUCTION IN FACTORIES.

- Turn **ON** the power at the left back side of the scale.
- Then button 1 4 1 2 then press the ENTER button when the scale is examining itself.
- **WEIGHT DISPLAY** will show **F=**
- **UNIT WEIGHT DISPALY** shows capacity **2lb**.
- **TOTAL WEIGHT DISPLAY** will show **50lb**.
- Press SCALE SELECT key.
- **UNIT WEIGHT DISPALY** will show **5lbs**.
- **TOTAL WEIGHT DISPLAY** will show **100lbs**.
- **REBOOT** after change.

DCT V 1.1 version manual (replaces U12 SM8958 DIP)
version number (DCT V1.1) will be displayed when the power is on.

New Function: Capacity Selectable (Must be matched with load cell capacity)

- Turn **ON** the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 2 then press ENTER.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT DISPLAY** shows **2lbs**.
- **TOTAL DISPLAY** will show **50lbs**.
- Press SCALE SELECT key.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT** shows **5lbs**.
- **TOTAL DISPLAY** will show **110lbs**.
- **REBOOT** the scale after modification.

New Function: Division Selectable

- Turn **ON** the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 1 then press ENTER.
- Display will show the following:
- **WEIGHT DISPLAY** shows **SCALE 1**
- **UNIT WEIGHT DISPLAY** shows **50lbs.**
- **TOTAL DISPLAY** will show **0.002.**
- Press SCALE SELECT key.
- To select available counting scale among **SCALE 1**, **SCALE 2**
- Press ENTER

- Modify the division of **SCALE1 TOTAL DISPLAY** line **(0.001, 0.01, 0.005, 0.002) 1/1000lbs.**
- Modify the division of **SCALE 2 TOTAL DISPLAY** line **(0.0001, 0.00005, 0.0005,0.0002) 1/1000lbs.**
- **REBOOT** the scale after modification.

<u>New Function</u>: Input tare weight by button in advance

Operation Way 2:

- Turn **ON** the power at the left back side of the scale.
- Input the container weight with ***NUMERIC KEYS***.
- Press TARE key
- **WEIGHT DISPLAY** will show **Zero**.
- LED indicator will light up when you activate it.
- Modify the single weight unit error from **RS232/USB**. (***Replace U5 CSU825 SMD***)

WT:1.1024lb. | UW: 0.05000lb/1000 | TOT: 22048QTY

WT:0.5000kg | UW: 0.02268kg/1000 | TOT: 22048QTY

DCT V 1.2 version manual (replaces U12 SM8958 DIP)
version number (DCT V1.2) would be displayed when the power is on.

New Function: Capacity Selectable (Must be matched with load cell capacity)

- Turn **ON** the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 2 then press ENTER.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT DISPLAY** shows **2lbs**.
- **TOTAL DISPLAY** will show **50lbs**.
- Press SCALE SELECT key.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT DISPLAY** shows **5lbs.**
- **TOTAL DISPLAY** will show **110lbs.**
- **REBOOT** the scale after modification.

New Function: Division Selectable

- Turn **ON** the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 1 then press ENTER.
- Display will show the following:
- **WEIGHT DISPLAY** shows **SCALE 1**.
- **UNIT WEIGHT** shows **50lbs.**
- **TOTAL DISPLAY** will show division **0.002**.
- Press SCALE SELECT key.

- To select available counting scale among **SCALE 1**, **SCALE 2**
- Press ENTER key.
- Modify the division of **SCALE1 TOTAL DISPLAY** line **(0.001, 0.01, 0.005, 0.002) 1/1000lbs.**
- Modify the division of **SCALE 2 TOTAL DISPLAY** line **(0.0001, 0.00005, 0.0005,0.0002) 1/1000lbs.**
- **REBOOT** the scale after modification.

New Function: Added numeric tare function.

Operation Way 2:

- Turn **ON** the power at the left back side of the scale.
- Key in the known weight of container
  - → Example: Gross weight is **200lb.** and container is **40lbs.**, put the **200lb.** on scale, key **40** then press TARE, and the scale will show **160lbs**.
- Modify the single weight unit error from **RS232/USB**. (***Replace U5 CSU825 SMD***)

WT:1.1024lb. | UW: 0.05000lb/1000 | TOT: 22048QTY

WT:0.5000kg | UW: 0.02268kg/1000 | TOT: 22048QTY

DCT V 1.3 version manual (replaces U12 SM8958 DIP)

version number (DCT V1.3) would be displayed when the power is on.

New Function: Capacity Selectable (Must be matched with load cell capacity)

- Turn on the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 2 then press ENTER key.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT DISPLAY** shows **2lbs.**
- **TOTAL DISPLAY** will show **50lbs.**
- Press SCALE SELECT key.
- Display will show the following:
- **WEIGHT DISPLAY** shows **F=**
- **UNIT WEIGHT DISPLAY** shows **5lbs.**
- **TOTAL DISPLAY** will show **110lbs.**
- **REBOOT** the scale after modification.

New Function: Division Selectable

- Turn **ON** the power at the left back side of the scale.
- As the scale is counting down, press the following buttons in order 1 4 1 1 then press ENTER key.
- Display will show the following:
- **WEIGHT DISPLAY** shows **Scale 1**
- **UNIT WEIGHT DISPLAY** shows **50lbs.**
- **TOTAL DISPLAY** will show **0.002.**
- Press SCALE SELECT key.
- To select available counting scale among **SCALE 1**, **SCALE 2**
- Press ENTER key

- Modify the division of **SCALE1 TOTAL DISPLAY** line **(0.001, 0.01, 0.005, 0.002) 1/1000lbs.**
- Modify the division of **SCALE 2 TOTAL DISPLAY** line **(0.0001, 0.00005, 0.0005,0.0002) 1/1000lbs.**
- **REBOOT** the scale after modification.

<u>New Function</u>: Added numeric tare function during sample counting.

Operation Way 2:

- Turn **ON** the power at the left back side of the scale.
- Put the parts with the container on the scale.
- Key in the unit weight of container
  - → Example: Gross weight is **1.1024lb**. and **unit weight** is **0.05000lb/1000**, key in **0.05** then press UNIT WEIGHT, scale will show **WT: 1.1024lb, UW: 0.05000lb/1000, TOT 22048QTY**, if known weight of container is **1lb**., key in **1** then press TARE, scale will show **WT: 0.1024lb, UW: 0.05000lb/1000, TOT 2048QTY**.
- Modify the single weight unit error from **RS232/USB**. (***Replace U5 CSU825 SMD***)

WT:1.1024lb. | UW: 0.05000lb/1000 | TOT: 22048QTY

WT:0.5000kg | UW: 0.02268kg/1000 | TOT: 22048QTY

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 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.

Transport & Storage

Your weighing machine is a precision instrument and should be treated carefully. Avoid shaking, severe impacts, or vibrations during transportation. Make sure that there are no marked temperature fluctuations during 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

CAUTIONS

Overcharging will cause permanent damage.

- When the recharging sign "  " appears, 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.
- If the battery does not last long after recharging, 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 a weight under the max capacity to verify if 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 the weighing platform. Turn scale back on and attempt recalibration.	If the scale was recalibrated successfully then the error is resolved. If error persists, the 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.

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

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