



WB + SERIES

Wireless Weigh bars



WB+ 5000 / WB + 10000

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: **Wireless Weigh Bar Series**

Available Models:

WB + 5000

WB + 10000

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

Signature:



Boon Lim, R & D Manager

Date: 14/11/2012

LW Measurements, LLC, 620 Carlson Court, Rohnert Park, CA 94928

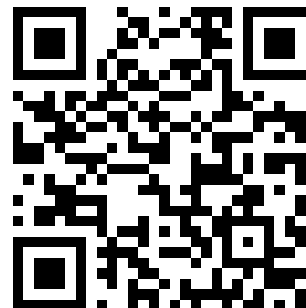
Customer Service

USA

LWMeasurementsLLC,
620 Carlson Court
RohnertPark, CA94928

USA
Tel: (707) 542-2185

<http://www.lwmeasurements.com>



Scan to Contact

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:



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.

IP65 protection

Your Weigh Bar weighing machine is rated to IP65.

The IP rating system

- **IP** stands for Ingress Protection
- The rating's first digit e.g. IP65 relates to the ingress protection against dust (6 means dust tight, see the table below)
- The second digit e.g. IP65 relates to the ingress protection against water (5 means protected against water jets, see the table below)

Protection against solid objects

1st Digit	Description	Definition
0	Non-protected	No special protection
1	Protected against solid objects greater than 50 mm	A large surface of the body such as the hand (no protection against deliberate access). Solid objects exceeding 50mm diameter
2	Protected against solid objects greater than 12 mm	Fingers or other objects not exceeding 80 mm in length. Solid objects exceeding 12 mm diameter
3	Protected against solid objects greater than 2.5 mm	Tools, wires, etc of diameter or thickness greater than 2.5 mm. Solid objects exceeding 2.5 mm diameter.
4	Protected against solid objects greater than 1.0 mm	Wires or strips of thickness greater than 1.0 mm. Solid objects exceeding 1.0 mm
5	Dust protected	Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the equipment
6	Dust-tight	No ingress of dust

Protection against liquids

2nd Digit	Description	Definition
0	Non-protected	No special protection
1	Protected against dripping water	Dripping water (vertically falling drops)
2	Protected against dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at any angle up to 15° from its normal position
3	Protected against spraying water	Water falling as spray at an angle up to 60° from the vertical shall have no harmful effect
4	Protected against splashing water	Water splashed against the enclosure from any direction shall have no harmful effect
5	Protected against water jets	Water projected from a nozzle against the enclosure from any direction shall have no harmful effect
6	Protected against heavy seas	Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities
7	Protected against the effects of immersion	Ingress of water in a harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time
8	Protected against submersion	The equipment is suitable for continuous submersion in water under conditions, which shall be specified by the manufacturer

Weight Scale

Construction & Functions

The weighing scale consists of the following parts.

1. Weigh Bars
2. Digital Indicator
3. Solar Chargers
4. A/C Adapter
5. Operating Manual



Functions

The Weigh Bars are high-quality electronic precision weighing machines with the following specifications.

Imperial weight unit version

Model Number	Capacity	Graduation	Weighing Platform Size
WB+5000	5000 lb.	1 lb.	100.5 x 10.5 cm
WB+10000	10000 lb.	2 lb.	100.5 x 10.5 cm
Net/Gross Weight	WB+ 5000: 32kg / 35.3 kg WB 10000: 32 kg / 35.3 kg		
Package (Standard Carton)	111 x 48 x 17.4(cm ³)		
Operating Temp.	0-40°C (32-104°F)		
Power Source	7.4V rechargeable lithium battery/3.7V rechargeable lithium battery		
	solar charger(selectable)/12V/1A AC/DC adapter/USB-C		

Application & Conformity

The following are instructions on how to correctly use the indicator:

The indicator 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 be correctly entered in the indicators program, otherwise the weighing scale may be damaged.

In using the indicator 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 indicator 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 indicator complies with the appropriate electrical protection class.

The following applies to all Weigh Bar series scales.

Power supply:

Input: 110V AC 50Hz to 60Hz

Output: 12v 1000 mAh

Allowable ambient conditions:

Temperature: 32°F - 104°F / 5°C - 40°C

Relative humidity:

25% - 85%, non-condensing

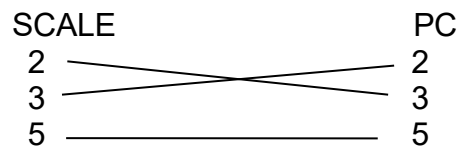
******NOTE: If you have any questions on the technical data or require detailed technical information on your balance, please contact your technical representative. ******

FEATURES

- Selectable auto backlight
- Selectable auto shut off
- Hold function
- ZERO range (0% - 4% of full capacity)
- TARE range (4% - 100% of full capacity)
- Any Cal calibration software
- Selectable calibration units: kg or lb.
- RS232 connection
- USB connection
- Wireless indicator
- Solar charging

RS232 Data Interface

1. Connector: DB9



2. Transmissions Settings

Mode: Simplex Asynchronous Serial
 Data Bit: 8
 Stop Bit: 1

Baud Rate: 9600
 Parity Bit: None
 Data Format: ASCII

3. Transmission Information Format : 20 Byte , blank=20H

1~2	3	4~13	14~18	19	20
'W: '	P	DATA	UNIT	CR	LF

W: Start of Data Transmission=57H+3AH

P: Polarity '+' = 2BH = Positive '-' = 2DH = Negative

DATA: '12.345' = 20H+20H+20H+20H+31H+32H+2EH+33H+34H+35H

UNIT: 'lb.' = 6CH+62H+20H+20H+20H

'Kg' = 6BH+67H+20H+20H+20H

CR: = 0DH

LF: = 0AH

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:

- Unpack the scale carefully.
- 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.
- 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 instructions, before you work with the unit and pay attention to the safety recommendations (reference Safety pg. 5).

Delivery

Inspect delivery for completeness immediately on unpacking all components.

Checklist for complete delivery

Component delivered present:	Yes / No
Weighing Bars (2pcs)	
Indicator	
Solar Chargers	
Power Adapter	
Operating Manual	

Assembly & Installation

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

- Place your machine on a level, stable, clean, and dry surface to ensure an accurate reading.
- Mount the indicator bracket to the wall or other suitable surface
- Connect the power cord to the indicator

NOTE: The AC input requirement could be 110, 120, 220, 230, or 240 volts (50/60 Hz), depending on the area where used. Please verify the adapter is compatible with your local power supply.

Connecting the AC Adapter

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



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.

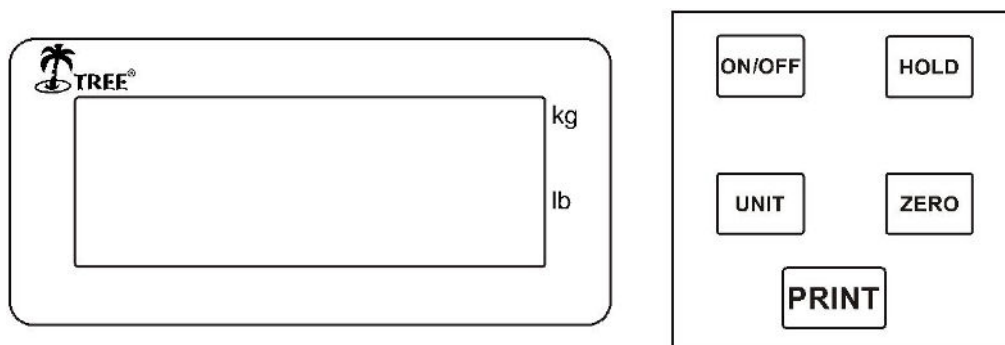
If the operating voltage is not the same as the mains voltage, the power adapter must not be connected to the mains socket and contact customer service.

Placement of Scale

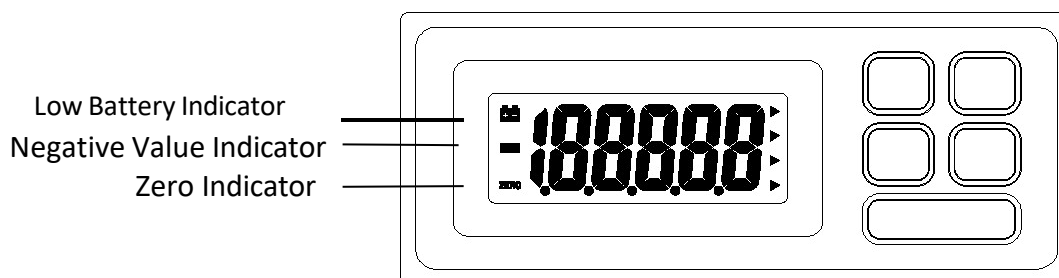
The location in which the scale is placed is very important for the scale to work to its full potential. Certain conditions can affect the capabilities of the scale, such as presence of air flow, variations in temperature, and direct sunlight. Please follow the recommendations given below when choosing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

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

Application Menu



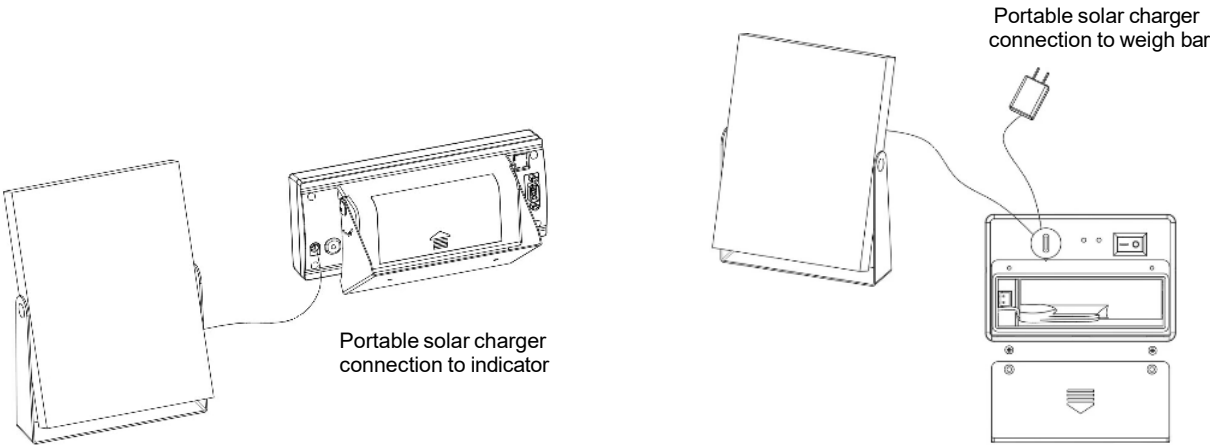
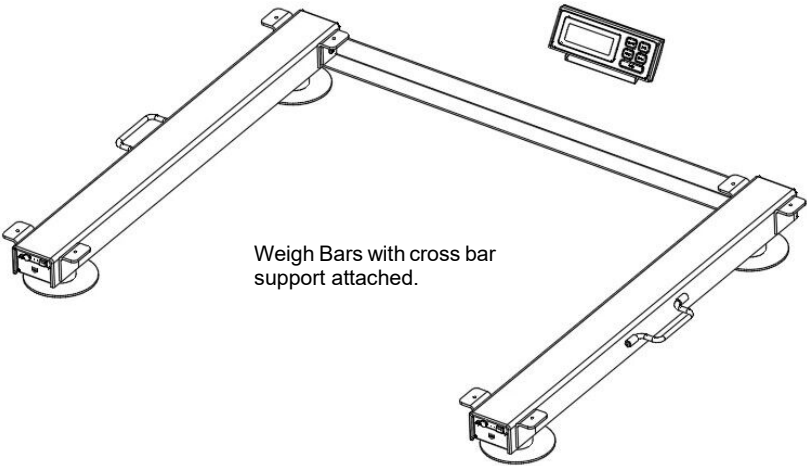
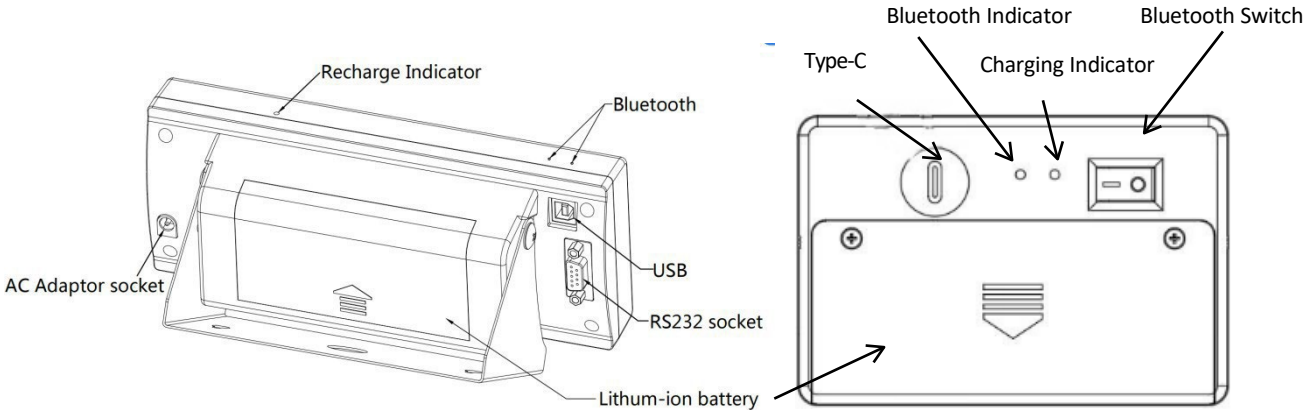
Display Messages:



Key Functions:

- The  key is to turn the scale On or Off
- The  key is to store the weight value.
- The  key is to toggle different weighing units.
- The  key will load weight below 4% of full capacity; Tare feature if load weight between 4 to 100% capacity.
- The  key is to send data to an external device through RS232 connector and USB.

Details of your Weighing Scale:



Program Options

Interface Settings

- Press and hold the **HOLD** key, then press **ON/OFF** key to turn on the scale, the display will show **A-ON** or **A-OFF**.
- Press **UNIT** key the display will show **L-ON**, **L-Au**, or **L-OFF**.
- Press **UNIT** key again to enter parity mode, the display will show **P-XXX**.
- Press **Zero** key to select **KEY**, **STB**, **CON**, **OFF**.

OFF stands for serial data output disabled.

KEY stands for manual mode by pressing **Print** key.

STB stands for automatic print when scale is stable

CON stands for continuous print.

- Press **ON/OFF** key to turn off the scale.

Setting Auto Shut Off

- Press and hold the **HOLD** key, then press **ON/OFF** key to turn on the scale, the display will show **A-ON** or **A-OFF**, indicating that the scale enters the menu of setting auto shut off.
- Press **Zero** key to select **ON** or **OFF**.
 - a) **ON** means auto shut off function activate.
 - b) **OFF** means auto shut off function inactivate.
- Press **ON/OFF** key to turn off the scale.

Setting Backlight

- Press and hold the **HOLD** key then press **ON/OFF** key to turn on the scale, the display will show **A-ON** or **A-OFF**.
- Press **UNIT** key to enter next menu, the display will show **L-ON**, **L-OFF** or **L-au**, indicating that the scale enters the menu of setting backlight.
- Press **Zero** key to select **ON**, **OFF** or **Au**.
 - c) **ON** means the backlight is always on.
 - d) **OFF** means the backlight is always off.
 - e) **Au** means auto backlight function activate, when the weight isn't zero, the backlight will be on; otherwise, it will be off.
- Press **ON/OFF** key to turn off the scale.

Setting Power-On Mode

- Press and hold the **HOLD** key then press **ON/OFF** key to turn on the scale, the display will show **A-ON** or **A-OFF**.
- Press **UNIT** key three times to the menu of setting the power-on display, and the display will show **J-ON** or **J-OFF**.
- Press **Zero** key to select **ON** or **OFF**.
 - f) **ON** means showing zero when turn on the power.
 - g) **OFF** means showing weight placed when turn on the power.
- Press **ON/OFF** key to turn off the scale.

Hold Function

- Press **ON/OFF** key to turn on the scale, place the item on the platform
- Wait for the readings stable, press **HOLD** key, the “. “ indicator will show
- Remove the item from the platform, the readings will remain on the display
- Press **HOLD** key to quit hold function mode

Bluetooth Reconnect

First reconnect the left scale and then reconnect the right scale.

1. Turn the switch of the left scale on,
2. Turn the switch of the right scale off,
3. Press and hold the **Print** key and then press the **ON/OFF** key to turn on the indicator, the display will show '**PL===**',
4. Press the **Zero** key, and the display will show "**CLEAR**" '**PL===**', press the **Print** key, the display will show **AUTOP**, "**PL---**", the Bluetooth LEDs on the indicator and the left scale body both change to bright, indicating that the Indicator and the left scale body are Bluetooth connected successfully.
5. Turn the switch on the right scale to the on position,
6. Press the **UNIT** key, the display will show '**Pr===**',
7. Press the **Zero** key, and the display will show "**CLEAR**" '**Pr===**', press the **Print** key, the display will show **AUTOP**, "**Pr---**", The Bluetooth **LEDS** on the indicator and the right scale body both change to bright, indicating that the Indicator and the right scale body are Bluetooth connected successfully.
8. Press **ON/OFF** key on the indicator to turn off the indicator.

Calibration

When to Calibrate

Calibration is generally required when the weighing machine is initially installed or if the weighing machine is moved to a substantial distance from the original location. 30 minutes of warming up of the scale is always needed before initial calibration.

A reminder when operating our larger capacity scales:

The scales of the WB + series are calibrated at the factory. Usually, no recalibration is necessary unless major inaccuracies are observed. If calibration is deemed necessary, an appropriate test weight of at least 2/3 of the full capacity of the scale should be used to obtain accurate weighing.

What you need:

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

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

Prepare for Calibration:

- Press and hold the **Zero** key and then press the **ON/OFF** key to turn on the scale, the display will show **CAL** followed by a random number.
- Press the **UNIT** key when the stable indicator is displayed, it will show the flashing calibration weight.
- Place the known test weight on the platform, press the **UNIT** key after stable indicator displayed, it will show -----, and then the **AD value**, the calibration is complete.
- Turn **off** the scale, remove the test weight from the platform.
- Press the **ON/OFF** key to turn the scale on to test if the weighing is accurate, if not, repeat the above steps.

Maintenance & Service



- 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.

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 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

Only use the adapter supplied with the scale and indicator.

1. If you press the  key on the indicator to turn on the indicator, the Bluetooth indicator on the indicator will always flash, and the indicator will always display the self-test character of "PL = = =" or "Pr = = ="

****The reason for this phenomenon may be that the power switch of the left scale body or right scale body isn't turned on. Another possibility is that the battery of the scale body is too low, please charge in time.****

2. When the  sign is lit, that means the indicator has a low battery.
 - When the  sign flickers slowly, that means the left scale body has a low battery.
 - When the  sign flashes quickly, that means the right scale body has a low battery.

****Please charge the battery for 4 to 6 hours. When the charging LED turns from orange to green, it indicates that the battery charging is completed. Please unplug the charger (adapter) immediately after charging as overcharging will cause battery damage.****

After charging, if the battery does not last long, please contact the supplier to replace the battery.

Troubleshooting

Error Code	Issue	Troubleshoot	Solution
ERRO/0	Overload error	Turn scale off, then back on, and try weighing using weight under 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.
ERRZ/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, scale may need a linearity calibration or has a damaged loadcell.
ERRS/5	Scale is 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.
ERRC	Calibration weight was not entered during calibration	Enter calibration weight during calibration process.	If error persists, call support.
ERRP	Counting set error	Place sample before entering counting settings.	If error persists, call support.
ERRL	Calibration weight was not placed during calibration.	Be sure to place weight when recalibrating.	If error persists, call support.
ERRE	Software issue	If error persists, call support.	If error persists, call support.
ERRB/6	Low battery error	Attempt to charge battery.	If error persists, the battery will need to be replaced. Make sure not to leave scale with rechargeable battery plugged in constantly.
<u>For an error that is not shown on this list that persists after troubleshooting you will need to contact support.</u>			



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.

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