



MODEL
WB5040-SWP
WIRELESS PORTABLE SCALE

User Manual

Revision 1.0 June 15, 2010



THIS EQUIPMENT CONTAINS NO USER SERVICEABLE COMPONENTS.

- Servicing of the equipment must only be carried out by trained and authorized personnel.
- Use only the AC adapter supplied with the scale. Other adapters may cause damage.



Routine maintenance

- Harsh abrasives, solvents, scouring cleaners and alkaline cleaning solutions should not be used; especially on the display window.
- The outside of the product may be wiped down with a clean cloth, moistened with water containing a small amount of soap.
- The display unit can be washed down with water.

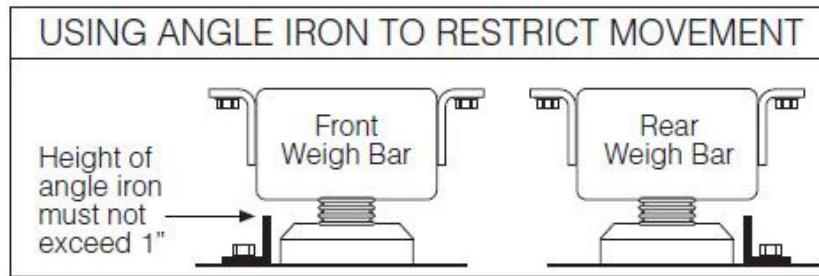
Installation

1. Unpack display unit and both weigh beams
2. Set weigh beams on a flat and level surface. A concrete slab is recommended.
3. The beams feature adjustable feet at each end. This enables side-to-side and front-to-back adjustment when setting up the system.
4. Install cattle chute or temporary platform
5. Install indicator in a suitable viewing area using mounting bracket

NOTES:

- The indicator comes with a pre-installed rechargeable battery
- The weigh beams come with pre-installed "C" cell alkaline batteries
- Do not mix the type of batteries. Replace all batteries at the same time.
- If the scale is not to be used for a long period of time, remove all batteries from the battery compartment to avoid leakage which may cause damage to the instrument.
- To extend the life of your digital scale, do not drop items to be weighed onto the platform or overload the scale beyond its rated capacity. Shock-loading and overloading may damage the load cell and void the warranty.
- Be sure that the feet are not screwed all the way into the bar, as this will result in inaccurate weighing
- Never weld any installation attached to the weigh beams. Damage to the scale's electronics can result
- When placing the weigh beams under a cattle squeeze chute, locate the bars at the far ends (front & back) of the squeeze chute in order to minimize the risk of tipping when animals enter and exit the chute
- Be sure that no equipment or objects prevent downward movement of the weigh beams.
- Be sure that the set up does not rock from corner to corner.

- In certain situations, a squeeze chute may move forward and/or backward when an animal enters or exits the chute. To restrict movement, a section of 1" angle iron may be mounted to the concrete pad in front of the chute and behind the chute. A 1/4" space should be maintained between the weigh bar feet and the angle iron (see illustration below).



Getting Started

1. After installing the scale per section above, first switch on each weigh beam by pressing the BLUE button once. The blue LED will turn solid for a few seconds and then start to flash.
2. Next press and hold the ON/PRINT key on the display unit for two seconds. After a brief initialization period, the scale will revert to a zero ("0") weight display.

Your wireless scale is now ready for operation!

Rechargeable battery information - display unit

Your scale's display unit contains an internal lead-acid rechargeable battery. Before using the indicator for the first time, please charge the battery overnight.

The indicator's battery should operate for about 85 hours if left on continuously. The display unit is configured to power down after 30 minutes of inactivity.

The battery can be charged while ON or OFF and the indicator can be operated while it's charging unless the state of charge is very low.

WHEN TO CHARGE THE INTERNAL BATTERY

The best time to charge the sealed lead-acid type battery is any time the indicator is not in use. You need not wait for the Low Battery Indication – in fact it's best that you don't. Charging the battery when not in use keeps the battery "fresh" and is the recommended way to manage it.

When the battery needs to be charged, the Low Battery Indicator will start blinking in the upper left-hand corner of the display. The indicator may be used for an additional 2 minutes before it automatically powers down. ***It is imperative that you charge the battery at this time to avoid permanent damage.***

HOW TO CHARGE THE INTERNAL BATTERY

1. Connect the charger (AC Adapter 12 VDC, 800mA) to the scale, and then plug the charger into an AC outlet. ***Make sure that the AC voltage appearing at the wall outlet matches the input voltage marked on the AC adapter.***
2. After the charging period expires, unplug the charger from the AC outlet, then from the scale. The scale is now ready for use under its own battery power.

NOTE: The charger may be left connected to the scale indefinitely without damage to the internal battery.

HOW LONG TO CHARGE THE INTERNAL BATTERY

In general, the battery should be allowed to charge a minimum of 1.5 hours for every hour of use. If you discharge the battery below 50% and do not allow the proper time for charging, you may start to notice a decline in the usage period. This is normal and eventually the battery must be replaced.

REPLACING THE BATTERY

The recommended practice when removing the battery is to disconnect the ground connection (black) first, then the red terminal. This ensures that a short circuit will not occur from a battery lead or fuse lead touching the grounded housing while disconnecting the other terminal. Similarly, the ground should be connected last when installing a new battery.

The US government has classified the internal battery as hazardous waste. Do not place battery into landfill. An automotive store or a local waste agency may accept the batteries for recycling. Contact the manufacturer for more information.

Operation – weigh beams

Each beam contains two buttons and one LED.

- The BLUE button is used to power up the beams
- The RED button is used to power down the beams

The beams have several operating modes to save battery life and also to alert the user when its time to replace the batteries. You can determine the operating mode by observing the blinking behavior of the blue LED contained within each beam:

LED Functionality – Blinking interval		
During Power-up (Initialization)		ON for 5 seconds
FULL BATTERY	Blink interval	
Working Mode	1.5 seconds	
Sleep Mode (power savings)	4 seconds	
LOW BATTERY	Blink interval	
Working Mode	10 seconds	Double Flash
Sleep Mode	10 seconds	Double Flash

Please replace the batteries when the blink interval is 10 seconds!

NOTE 1: Beams will shut down completely after two hours of inactivity.

NOTE: 2: Beams will only enter sleep mode when the indicator (display) is OFF.

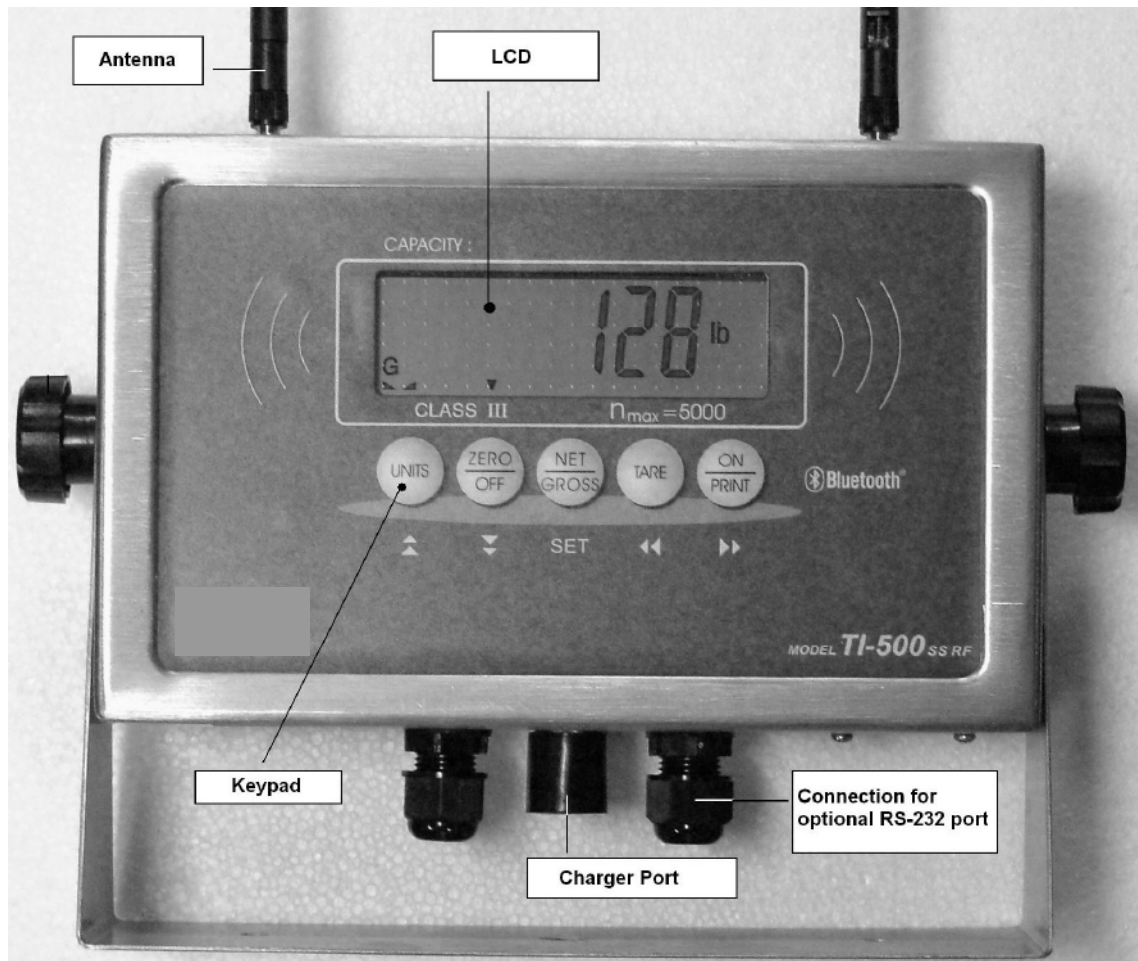
When shipped from the factory, the display unit is configured to automatically switch off after 30 minutes if not in use.

Replacing the batteries – weigh beams

Each beam has a battery holder which contains 4 “C” cell alkaline batteries.

1. Turn the beam OFF (Press the RED button)
2. Remove the rubber cover
3. Grasp the metal cylinder inside and carefully pull free from the housing
4. Unscrew either end cap to reveal batteries
5. Exchange the batteries – be careful to note polarity
6. Replace the end cap
7. Slide the metal cylinder back into the metal housing being careful not to crimp or cut the wire

Keyboard and Display Description



Symbol

Display



Displays when the scale is on Zero.

N

Indicates that the indicator is displaying net weight (Gross weight minus Tare weight).

G

Indicates that the indicator is displaying gross weight

T

Indicates that a push-button tare weight has been established in the system

lb

Indicates that the unit of the displayed weight is in pounds

kg

Indicates that the unit of the displayed weight is in kilograms



This light is on whenever the scale is at rest (stable reading).



When blinking, indicates that battery life of the indicator has reached its useful end and needs to be recharged soon. More information below

The display unit can show overall system battery health. See the Error Messages for more information.



Function Keys

Units

This key toggles the indicator between lb and kg.

Zero/Off

This key sets the indicator to display zero weight provided the following conditions are met:

1. The indicator is displaying Gross weight.
2. The scale is not in motion.
3. The scale is not in overload (see error codes).

Press and hold for five seconds to shut the unit off.

Net/Gross

This key toggles the indicator between Gross weight and Net weight - but only if a Tare weight has been established first

Tare

This key is used to establish a Tare weight provided the following conditions are met:

1. The indicator is displaying a Gross weight above zero.
2. The scale is not in motion.
3. The scale is not in overload (see error codes).

Function Keys

On/Print Press and hold for two seconds to turn the unit on. When the unit is on, this key is used to send weight information out to the serial port provided the following conditions are met:

1. The scale is not in motion.
2. The scale is not in overload (see error codes).

Hold operation:

Coming soon

Calibration

Your WB5040-SWP portable scale is ready to use right out of the box. There is no need to calibrate the scale unless you feel that the scale has become inaccurate. It is a good idea to check the calibration of your scale from time to time with a precision test weight.

1. Switch off the display unit by pressing and holding the ZERO/OFF key for about 5 seconds.
2. Enter the Setup mode by pressing and holding the ON/PRINT key for about 20 seconds or until the screen shows "SETUP".
3. While in the Setup mode, scroll to "**F 16**", and then scroll down once using the ZERO/OFF key to enter zero calibration menu. The display will momentarily show "**C 0**" followed by a value. This value is the internal A/D count and can prove useful when trying to troubleshoot setup problems.
4. Remove all items from the beams and press the ZERO/OFF key to zero out the displayed value.
5. Press the NET/GROSS key to save the zero point value. The display will show "**EndC0**" momentarily, and then revert back up to F16.
6. Press the ON/PRINT key to progress to the F17 menu.
7. While at the "**F 17**" screen, scroll down once using the ZERO/OFF key to enter span calibration menu. The display will momentarily show "**C 1**" for the span calibration point, followed by a value with one flashing digit.
8. Place the test weight on the weighing platform.
9. Use the four directional keys to adjust the displayed value to the actual test weight value. Increase the flashing digit by pressing the UNITS key. Decrease the flashing digit by pressing the ZERO/OFF key. Pressing the TARE key or the ON/PRINT key will change the position of the flashing digit.
10. After entering the exact value, press the NET/GROSS key to save the value. If the calibration was successful, the display will show "**EndC1**" momentarily, followed by "**C 2**" for the second calibration point.
11. Repeat steps 8-10 for C2 and C3. At the conclusion of C3, the indicator displays the current gravity settings, e.g. "9.800".
12. Press the NET/GROSS key to revert back up to F17.

13. If the calibration was *not* successful, one of the error messages below will appear. Take the indicated action to correct the problem, and then perform a new calibration.
- "Err0" - The calibration test weight or the keyed-in weight is larger than the full capacity of the scale. Change the calibration test weight or check the input data.
 - "Err1" - The calibration test weight or the keyed-in weight is smaller than 1% of the full capacity of the scale. Change the calibration test weight or check the input data.
 - "Err2" – There is not enough signal from the load cells to establish a proper calibration. Most common causes include incorrect load cell wiring, a mechanical obstruction or a faulty (damaged) load cell.

Error Messages



Indicates that the weighing capacity of the scale has been exceeded. The weight limit of the WB5040-SWP is 5000 pounds.



Indicates that the weight on the scale is negative. Press the **Zero/Off** key.



Beam #1 not found; ensure that beam #1 is powered ON and/or move closer to display unit.



Beam #2 not found; ensure that beam #2 is powered ON and/or move closer to display unit.



Beam #1 batteries have been depleted and need to be replaced.



Beam #2 batteries have been depleted and need to be replaced.



Both Beam #1 and Beam #2 batteries have been depleted and need to be replaced.



Display unit battery needs to be recharged

Error Messages – continued



Display unit battery needs to be recharged AND Beam #1 batteries need to be replaced



Display unit battery needs to be recharged AND Beam #2 batteries need to be replaced



Display unit battery needs to be recharged AND Beam #1 and Beam #2 batteries need to be replaced

Specifications

STANDARD CAPACITY

5,000 lb x 1 lb

NOTE: If specified by the purchaser, the scale's capacity and divisions may be different than the standard configuration.

MAIN COMPONENTS

- TS-500SS RF stainless steel digital indicator and AC adapter
- Two 40" weigh beams

BEAM CONSTRUCTION

- Carbon steel tube
- High grade epoxy paint finish

LOAD CELLS

- 350 ohm, two per weigh beam
- Overload protection 200%
- Operating temperature 14°F to 104°F (-10°C to 40°C)
- NTEP approved

Digital Indicator Specifications

- NEMA 4X washdown stainless steel enclosure
- Operating temperature 14°F to 104°F (-10°C to 40°C)
- Connection port for optional printer
- AC adapter included, 12 VDC 800 mA
- Tilt adjustable bracket included

Digital Indicator BATTERY

- 6 volt
- Built in
- Rechargeable
- 85+ continuous hours of operation on full charge under typical operating conditions

Weigh Beam BATTERY

- 1.5 volt x 4 "C" alkaline
- User replaceable
- 130+ continuous hours of operation under typical operating conditions

Troubleshooting

Issue Recommendations

"Low Battery" icon blinks on the digital readout, then the indicator powers off.

Recharge the battery. Plug the indicator into 230 VAC for 18+ hours (using the included AC adapter). When not operating under battery power, it is recommended that the indicator remains plugged in to 230VAC. This will keep a full charge in the battery.

Indicator displays a weight after the animal has left the scale.

Check for mechanical binding in the overall equipment set up, such as restraining chains on squeeze chute, platform rubbing against walls, or similar. Check weighing platform area for build-up of mud or manure.

Weight reads out lower at one end of the weighing platform/squeeze chute than the other end.

Check for any type of mechanical binding or impingement of the weigh beam that is displaying the lower weight. Check underneath the weigh beam for any obstructions. Make sure that the weigh beam feet are not screwed in so far as to restrict downward movement of the weigh beam.

Indicator displays six small zeros.

Scale is overloaded. Remove weight from scale.

Scale turns off on its own.

The indicator has a power conservation feature, set to automatically power off the scale after 30 minutes of non-use. If your needs require a different setting, call us.

Display is erratic.

The battery may be fully depleted. If so, this condition can cause erratic displays even if the digital indicator is plugged into 230 VAC. Power off the indicator and fully charge the battery for 18+ hours.

Limited 12 month Warranty

This product is warranted by Transcell Technology against manufacturing defects in material and workmanship under normal use for twelve (12) months from the date of purchase. For complete warranty details and service information, please contact us at the address below.

Contents subject to change without notice.

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