

# *CS Series*

## *Digital Counting Scale*

### Operation Manual

Revision 1.0  
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***Transcell Technology inc.***

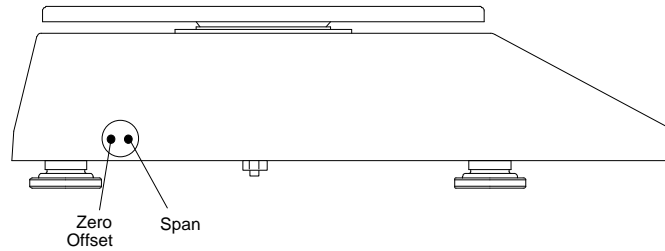
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## Calibration

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The scale is calibrated by adjusting two potentiometers located on the left side of the scale, and hidden by a rubber plug. These two adjustments must be done in order. Refer to the illustration above when executing these procedures.

by adjusting the potentiometer nearest the rear of the scale.

The final adjustment is the span. This is set by adjusting the potentiometer nearest the front of the scale.

The first adjustment is the zero offset. This is set

### To adjust the zero offset value:

1. Press any key while turning on the power switch. The display blanks out and the triangle indicators come on. Release the key.
2. Press the “1” key. The PIECES window shows the internal zero offset count.
3. With all objects removed from the stainless steel platter, adjust this value to  $5,000 \pm 20\%$  counts using the rear potentiometer. **NOTE:** To decrease this value, turn the trimmer clockwise. To increase this value, turn the trimmer counter-clockwise.
4. Turn the scale off to exit this mode.

### To adjust the span value:

1. Turn the scale on without pressing any keys and without any objects on the stainless steel platform.
2. Place a test weight(s) on the platter closest to the full scale capacity as possible. Adjust the trimmer nearest the front of the scale to “dial in” the correct weight value. **NOTE:** To decrease this value, turn the trimmer counter-clockwise. To increase this value, turn the trimmer clockwise.
3. Remove the test weight(s) and re-zero the scale.
4. Repeat steps 2 and 3 until the correct weight value is obtained from the scale.

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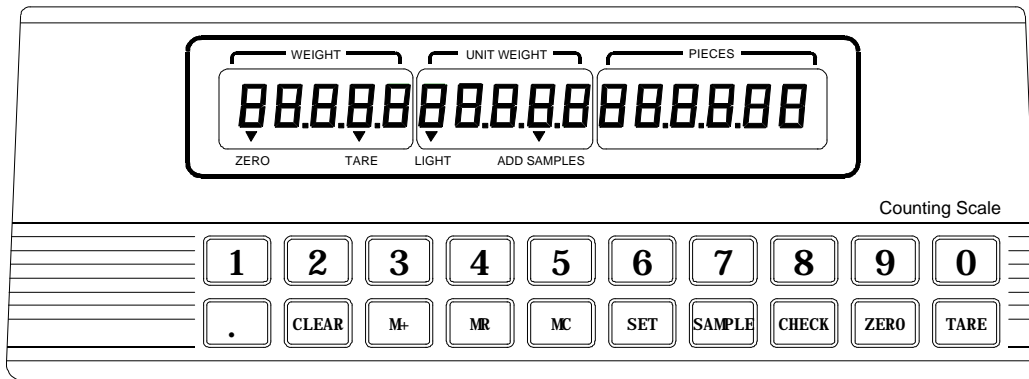
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## Introduction

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The CS Series Counting Scale, available in three capacities, is an easy to use, high resolution counting scale featuring keyboard tare and unit weight entry, as well as a memory accumulator and check function. Housed in a durable ivory-colored plastic enclosure, the unit displays its

bright numerals on a 16-digit VFD type display. A 20-key membrane panel contains all of the scale's functions and allows entry of numerical data. A removable 8" x 9" stainless steel platform allows for easy cleaning when used to count greasy or dusty items.



CS Series Front Panel

## Getting Started

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After unpacking the scale, a small amount of assembly is required:

- Locate the sub-platform, four (4) Hex screws, and enclosed Allen wrench. Place sub-platform onto scale's load point with all rubber parts facing up. Install and tighten the four Hex screws.

### Please Do...

- Place the scale on a firm and stable floor or table.
- Plug the line cord into an AC outlet.
- Leave the scale on for at least 30 minutes before using. You will find the ON/OFF switch at the bottom of the scale on the right, towards the front. You may leave the scale on at all times, if you wish.
- Press the **ZERO** key before operating the scale.

Continued 

## Getting Started / Continued

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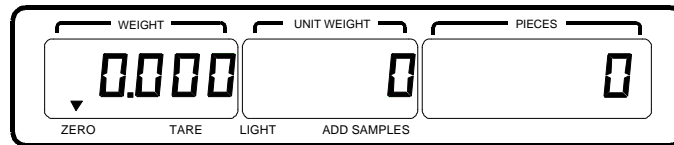
### Please Do Not...

- Share an AC outlet with other noise producing products; i.e. anything with an electrical motor or relay.
- Turn the scale ON with an object already on the platform. You will not be able to **ZERO** the scale.
- Operate the scale...
  - ...in an area with changing ambient temperature.
  - ...in direct sunlight.
  - ...in an area with high humidity.
  - ...in a dusty environment.
  - ...in a windy area.
  - ...in an area with vibration.

## Basics of Operation

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### 1. DISPLAY OVERVIEW

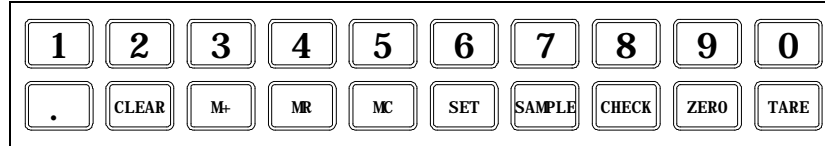


CS Series Display Indication - Normal Mode

INDICATION	MEANING
<b>Weight</b>	Indicates the gross or net weight in pounds on the platform. This reading is blank when the full scale capacity has been exceeded.
<b>Unit Weight</b>	Indicates either the calculated or the keyed-in unit piece weight in thousandths (0.001) of a pound.
<b>Pieces</b>	Indicates the number of pieces currently on the platform.
<b>Zero</b>	Indicates that the weight reading is at the scale's zero position.
<b>Tare</b>	Indicates that the current weight reading is net weight.
<b>Light</b>	Indicates that the unit weight is not high enough to display an accurate piece count.
<b>Add Samples</b>	The total weight of the samples on the platform is below the limit.

## Basics of Operation / Continued

### 2. KEYPAD OVERVIEW



KEY	FUNCTION
	Sets the scale in the correct zero position for accurate operation.
	Establishes either the weight currently on the platform or the current keyed-in value as the tare weight.
<b>Numeric Keys (0-9)</b>	Allows entry of numeric data.
	Allows entry of decimal point position when entering numeric data.
	Establishes the current keyed-in value as unit weight.
	Establishes the current keyed-in value as the piece count of items currently on platform.
	Clears the current keyed-in value or the unit weight.
	Toggles the scale between current indication and the check limit setting. Also allows programming of check limit.
	Adds the current number displayed in the PIECES window to the accumulator. (Memory +)
	Toggles the scale between current indication and the contents of the accumulator. (Memory Recall)
	Clears the contents of the accumulator. (Memory Clear)

## ***Tare Operation***

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In order to subtract the weight of the container or vessel from the scale's reading, it is necessary to enter that weight as the tare weight. This value can be entered into the CS Series Counting Scale by either the **push button tare** method or the **keyboard tare** method.

A tare weight may be entered up to and including the scale's full capacity, however the maximum negative weight that the scale can show is -9.999 lbs.

For greater accuracy, it is suggested that the push button tare method be used.

### ***To use the push button tare method:***

1. Place the empty container on the platform.
2. Press the **TARE** key. The TARE indicator comes on and the WEIGHT display window shows zero.

### ***To use the keyboard tare method:***

1. Enter the known tare weight in pounds into the scale using the numeric and decimal point keys.  
**NOTE:** You must enter all three decimal places if the tare weight is not in whole pounds, i.e. enter 1.2 lbs as 1.200 lbs. This value will be blinking in the UNIT WEIGHT display window.
2. Press the **TARE** key. The TARE indicator comes on and the WEIGHT display window shows the keyed-in tare weight as a negative value.

### ***To clear the tare weight from the scale:***

1. Remove all weight from the platform and press the **TARE** key. The TARE indicator goes off and the WEIGHT display window again shows zero.

### **Possible Tare Operation Errors:**

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You cannot enter a tare weight that is greater than the scale's full capacity. For example, for the CS-12, you cannot enter, say, 13.000 lbs.

Also, you cannot key in a decimal point value higher than the resolution of the scale. For ex-

ample, for the CS-12, you cannot enter 0.001 lbs. since the resolution is 0.002 lbs.

In both cases, the scale will automatically reset itself after three seconds, or you can press the **CLEAR** key to key in a new value.

## ***Piece Counting Operation***

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There are two ways to use the piece counting operation. A unit weight value can be keyed into the CS Series Counting Scale by using the **keyboard entry** method. Alternatively, the **sampling** method may be used.

depends upon part consistency and sample weight. When using the sampling method, always count the parts in your hand and place them on the platform all at once.

For greater accuracy, the sampling method should be used. The accuracy of this operation

Both the sample weight and the unit weight have limits to assure accuracy. The limits for these are found at the bottom of the page.

### ***To use the sampling method:***

1. Place a pre-determined number of pieces on the platform. The WEIGHT display window shows the total weight.
2. Key in the number of pieces you have placed on the platform. This value will be blinking in the UNIT WEIGHT display window.
3. Press the **SAMPLE** key. The UNIT WEIGHT display window now shows the calculated unit weight, while the PIECES display window shows the actual number of pieces on the platform.

### ***To use the keyboard entry method:***

1. Key in the pre-determined unit weight in thousandths of a pound; i.e. enter 0.010 lbs as 10. This value will be blinking in the UNIT WEIGHT display window.
2. Press the **SET** key. The UNIT WEIGHT display window now shows the keyed-in unit weight value.

### ***To clear the unit weight from the scale:***

1. Press the **CLEAR** key. The UNIT WEIGHT display window now shows zero.

### **Possible Sample Weight or Unit Weight Entry Errors:**

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Consult the table below for limits to both sample weight and unit weight. A light unit weight will still allow counting operation, but accuracy cannot be guaranteed.

<b>MODEL NO.</b>	<b>CAPACITY</b>	<b>MIN. SAMPLE WEIGHT</b>	<b>LIGHT UNIT WEIGHT</b>
CS-1.2	1.2 lbs	0.005 lbs	0 to 0.00016 lbs
CS-6	6 lbs	0.025 lbs	0 to 0.0008 lbs
CS-12	12 lbs	0.050 lbs	0 to 0.0016 lbs
CS-30	30 lbs	0.125 lbs	0 to 0.004 lbs
CS-50/60	60 lbs	0.250 lbs	0 to 0.008 lbs

## Accumulator Function Operation

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The CS Series Counting Scale comes equipped with a handy accumulator function which works in conjunction with the piece counting operation.

counts. Much like a pocket calculator, this memory can be added to, displayed, and cleared at any time.

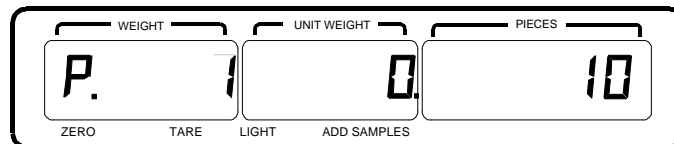
The accumulator uses a memory to store piece

### To use the accumulator function:

1. Enter the Unit Weight of the objects you wish to count by one of the methods listed under "Piece Counting Operation."
2. Press the **MC** key to clear the accumulator memory.
3. Place the objects to count on the platform. The number of pieces will be shown in the PIECES display window.
4. Press the **M+** key to add this value to the accumulator's memory.
5. Repeat steps 3 & 4 until all pieces are counted.
6. Press the **MR** to view the contents of the accumulator. The display shows the information in the following format:

The WEIGHT display window shows the number of times the **M+** key was pressed.

The PIECES display window shows the accumulator total.



CS Series Display - Memory Recall

7. To return to piece count mode, press the **MR** key again.

## Check Limit Function Operation

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The CS Series Counting Scale comes equipped with a handy check limit function which works in conjunction with the piece counting operation.

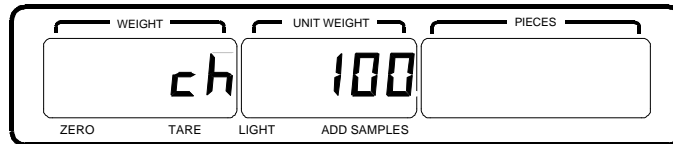
The check limit uses a memory to store a piece

count limit which is entered using the numeric keys. Once set, the scale sounds an alarm when the current piece count is equal to or greater than the stored limit. This function was designed for packing and filling applications.

### To set the check limit value:

1. Press the **CHECK** key.
2. Key in the number of pieces you wish to set as the check limit value. This value will be blinking in the UNIT WEIGHT display window.
3. Press the **SET** key. The display now shows the information in the following format:

The UNIT WEIGHT display window shows the number entered for check limit.



CS Series Display - Check Limit Setting of 100

4. Press the **CHECK** key again to return to previous operation.

### To use the check limit function:

1. Enter the Unit Weight of the objects you wish to count by one of the methods listed under "Piece Counting Operation."
2. Add pieces to the container until the scale "beeps" repeatedly and the value in the PIECES display window blinks on and off.

### To clear the check limit value:

1. Press the **CHECK** key.
2. Press the **CLEAR** key. The value in the UNIT WEIGHT display window becomes zero.
3. Press the **SET** key to clear the value from memory.
4. Press the **CHECK** key to return to previous operation.

## Appendix A: Specifications

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### CAPACITY:

**CS-1.2:** 1.2 lb x 0.0002 lb  
**CS-6:** 6 lb x 0.001 lb  
**CS-12:** 12 lb x 0.002 lb  
**CS-30:** 30 lb x 0.005 lb  
**CS-50/60:** 60 lb x 0.01 lb

### CONSTRUCTION:

**Housing:** Ivory ABS  
**Base & Sub-Platform:** Metal  
**Platform:** Stainless Steel  
**Feet:** Non-skid Hard Rubber

### DISPLAY:

16 Character, 7-Segment VFD

### KEYPAD:

20-key Membrane Type

### OVER CAPACITY ANNUNCIATION:

103% of Full Scale Capacity

### OPERATING TEMPERATURE RANGE:

32°F to 104°F  
(0°C to 40°C)

### POWER SOURCE:

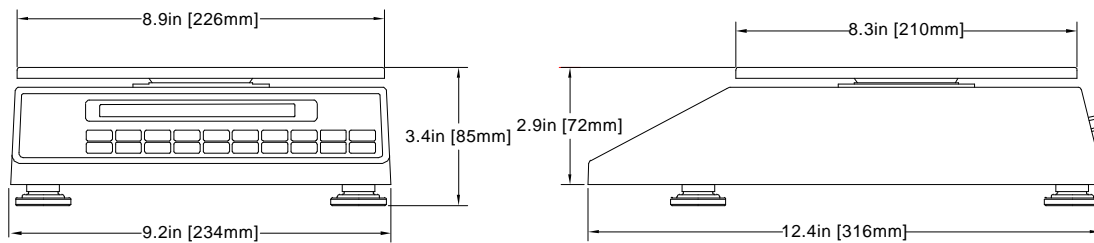
AC Line, 120 VAC  
**Fuse:** 5 x 20 mm, 0.5 Amp,  
Quick Blow

### WEIGHT:

**Net Weight:** 8.8 lb (4 kg)  
**Shipping Weight:** 14.2 lb (6.4 kg)

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### PHYSICAL DIMENSIONS:



## Appendix B: In Case of Trouble...

After reading your operating manual thoroughly, you should have no trouble using your scale. However, if you are still experiencing difficulty, please review the following points before calling or returning the scale.

PROBLEM	THINGS TO CHECK									
	A. 30 minute warm-up	B. Area vibrations	C. Air Currents	D. Ambient Temperature	E. Sub-platform	F. Magnetic Interference	G. AC Power Cord	H. Line Voltage	I. Fuse	J. A/D or load cell
#1. Will not tare	X	X	X	X	X	X		X		X
#2. Unstable Reading	X	X	X	X	X	X		X		X
#3. No Weight Reading				X			X			
#4. Flashing Digits						X	X			X
#5. No read out						X	X	X	X	X
#6. Display stuck		X	X		X					X

### PROBLEM:

- Will not tare to zero.
- When sample is placed on pan, display reading will not stabilize, i.e. jumps one or more divisions.
- Display will not change after sample is placed on platform.
- Displayed numbers flash on and off and scale will not tare.
- No readout appears in the display windows or the WEIGHT window does not return to zero.
- Display is stuck after power is turned on and all digits show zero or are blank.

### THINGS TO CHECK:

- Proper warm-up time is at least 30 minutes. It is recommended that the unit be left on continuously.
- Large machinery may cause vibration in the work area. The scale should be placed on a stable surface.
- Excessive air movement can affect stability. Scale should be located away from air conditioners, fans, fume hoods, etc. A breeze shield may be required.

- Extreme changes in room temperature can affect the internal calibration of the unit.
- The sub-platform is held in place by four screws which may vibrate loose. Remove the platform to check. **IMPORTANT: DISCONNECT THE SCALE FROM THE AC OUTLET PRIOR TO REMOVING THE PLATFORM. Do not over tighten screws.**
- Do not place the scale near magnetic materials or instruments which incorporate magnets in their design.
- Power supply cord should fit snugly in the socket.
- The line voltage to the scale should be reasonably constant and free from fluctuations. It is advisable not to share an outlet with fluorescent lights or other products which draw voltage in an inconsistent manner.
- Where applicable, check for a blown fuse. Replace with a metric 0.5 Amp quick blow fuse. **IMPORTANT: DISCONNECT THE SCALE FROM THE AC OUTLET PRIOR TO REMOVING THE FUSE.**
- A/D converter is not stable or load cell has failed. Return scale for repair.

## ***Appendix C: Warranty and Service Information***

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Seller warrants that the CS Series Counting Scale will conform to written specifications, drawings, and other descriptions made by the manufacturer, including any modifications thereof. The Seller warrants the goods against faulty workmanship and defective materials. If any goods fail to conform to these warranties, Seller will, as its sole and exclusive liability hereunder, repair or replace such goods if they are returned within the following warranty period:

### **Twelve (12) months from date of shipment from manufacturer.**

These warranties are made upon the express condition that:

- 1) Transcell Technology, Inc. is given prompt written notice upon discovery by Buyer of such non-conformity, with a detailed explanation of the alleged deficiencies;
- 2) Such goods are returned to the Seller at the expense of the Buyer;
- 3) Examination of such goods by Seller discloses that the nonconformity actually exists and was not caused by accident, misuse, neglect, alteration, improper installation improper or unauthorized repair, or improper testing, and
- 4) Such goods have not been modified, altered, or changed by any person other than the Seller or its duly authorized repair agents.
- 5) Transcell Technology, Inc. will have a reasonable time to repair or replace such goods.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SELLER WILL NOT IN ANY EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

IN ACCEPTING THIS WARRANTY, THE PURCHASER OR BUYER AGREES TO WAIVE ANY AND ALL OTHER CLAIMS FOR RIGHT TO WARRANTY FROM TRANSCCELL TECHNOLOGY, INC. SHOULD THE SELLER BE OTHER THAN TRANSCCELL TECHNOLOGY, INC., THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIM OR CLAIMS.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of the Seller.

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