Operating Manual

Weighing Indicator

CTB

Citizen
ISO 9001 : 2000 CERTIFIED

Citizen Scale, Inc. USA
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10. CALIBRATION

The scale can be calibrated using the following procedure.   For a more detailed method of calibrating the scale it will be necessary to enter the secure Programming Menu. Refer to the CTB Service Manual for more information.

The CTB scales calibrate using metric weights and the CTBa scales can calibrate using either metric or pound weights, depending on the weighing unit in use before calibration.   The display will show either "kg" or "lb" to identify the weights expected.

Turn the power off. Turn the power back on, during the counting from 9 to 0 press the SET key.

The display will show "CAL   " for a few seconds.   While it is showing "CAL   " press the SMPL,   PRINT and TARE keys in sequence to enter the Calibration section.   The display will show   "unLoAd".

Remove any weight from the platform.   Press the ZERO/ENTER key.

The display will show "LoAd".   Place the calibration weight on the scale.   Press the ZERO/ENTER key.

The display will show the last calibration weight used.   If this is correct you can continue by pressing the ZERO/ENTER key.   If it is not correct use the arrow keys to change the calibration weight value.   When it is correct press the ZERO/ENTER key.

If the calibration is acceptable the display will show "PASS" and then return to normal.   If an error message is shown try calibration again as a disturbance may have prevented a successful calibration.

If the problem persist then contact Taiwan scale or your dealer.

After calibration the scale should be checked to verify the calibration and linearity is correct.   If necessary repeat calibration, especially be certain the scale is stable before accepting any weight.

CONTENTS

9. ERROR CODES

ERROR CODES	DESCRIPTION	RESOLUTION
- - - - -	Over range	Remove weight from the scale. If the problem persist contact your dealer or Taiwan scale for assistance.
Err 1	Date Setting Error	Enter date using correct format and reasonable values. Format: yy:mm:dd
Err 2	Time Setting Error	Enter time using correct format and reasonable values. Format: hh:mm:ss
Err 4	Zero Setting Error	The scale was outside the normal zero setting range either when it was turned on or when the ZERO key was pressed. Remove weight from the scale and try again. Use the TARE key to set the display to zero value. If the problem persist contact your dealer or Taiwan scale for assistance.
Err 6	A/D out of range	The values from the A/D converter are outside the normal range. Remove weight from the scale if overloaded, make sure the pan is attached. Indicates the load cell or the electronics may be faulty. If the problem persist contact your dealer or Taiwan scale for assistance.
Err 9	Unstable, can't return to zero	When turn on the power, if internal counts is not stable, display will have "Err 9", please check the platform and load cell. If the problem persist contact your dealer or Taiwan scale for assistance.

8. BATTERY OPERATION

The weighing indicator can be operated from the battery if desired. The battery life is approximately 100 hours.

When the battery needs charging a symbol on the weight display will turn on. The battery should be charged when the symbol is on. The scale will still operate for about 10 hours after which it will automatically switch off to protect the battery.

To charge the battery simply plug into the mains power. The scale does not need to be turned on.

The battery should be charged for 12 hours for full capacity. Just under the weight display is an LED to indicate the status of battery charging.   When the scale is plugged into the mains power the internal battery will be charged.   If the LED is green the battery has a full charge. If it is yellow the battery is nearly full of charge and red indicates the battery is being charged.

As the battery is used it may fail to hold a full charge. If the battery life becomes unacceptable then contact your distributor

1. INTRODUCTION

The T2000A weighing indicator provides an accurate, fast and versatile series of general purpose weighing indicator with counting and check-weighing functions.

All the keypads are sealed, color coded membrane switches and the displays are large easy to read liquid crystal type displays (LCD). The LCD's are supplied with a backlight.

All units include automatic zero tracking, audible alarm for pre-set weights, and an accumulation facility that allows the individual weights to be stored and recalled as an accumulated total.

2. KEY DESCRIPTIONS

Zero or ⇥0⇤

Set the zero point for all subsequent weighing. The display shows zero.

A secondary function ↵, of "Enter" key when setting parameters or other functions.

Tare or ⟳Ⓣ

Tares the scale. Stores the current weight in memory as a tare value, subtracts the tare value from the weight and shows the results. This is the net weight. Entering a value using the keypad will store that value as the tare value.   A secondary function ▲, of incrementing the active digit when setting a value for parameters or other functions.

Units or ⟲

Selects the data to be displayed when parts counting and is used for other functions during setting modes.   Will move the active digit to the right ▶ when setting values for some functions.

The next function is select mode of weight for display, press the key, you can select gross weight, net weight, tare weight.

-1-
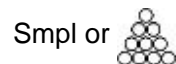
Smpl or

Select sample quantities when parts counting.　Move the active digit left ◀ when setting values for other functions.

Func or **SET**

Used to select the function of the scale.　If the scale is weighing it will select parts counting.　Of it is not in weighing mode it will return the user to weighing.　Secondary function (C) , is to act as a clear key when setting values for parameters or other functions.

Print/M+ or

To print the results to a PC or printer using the optional RS-232 interface.　It also adds the value to the accumulation memory if the accumulation function is not automatic. Secondary function (ESC) , is to return to normal operation when the scale is in a parameter setting mode.

U or Unit

Change weighing unit.

3. BASIC OPERATION

3.1 Zeroing The Display

You can press the ZERO/ENTER key at any time to set the zero point from which all other weighing and counting is measured, within 4% of power up zero. This will usually only be necessary when the platform is empty. When the zero point is obtained the display will show the indicator for zero.

The scale has an automatic rezeroing function to account for minor drifting or accumulation of material on the platform. However you may need to press the ZERO/ENTER key to rezero the scale if small amounts of weight are shown when the platform is empty.

3.2 Taring

Zero the scale by pressing the ZERO/ENTER key if necessary. The zero indicator will be on.

-2-

F4 off	CLoCK	Set clock off or on, CLK of / CLK on	CLK off
	bL	Set the backlight to be on, automatic or off, EL on / EL Au / EL off	EL Au
	bEEP	Set the beeper to be Bp 1, Bp 2 ,BP3 during the check-weighing function.　BP 1: not beeper. BP 2 :If the weighing overstep the rang of check-weighing, it will tweet. BP3 :If the weight accord the rang of check-weighing, it will tweet.	Bp 3
F5 Prt		Set the RS-232 P Prt: print when the PRINT key is pressed, P Cont: print continuously, connect to PC , the indicator will show baud rate (600/1200/2400/4800/9600), then there are three mode of the cont, cont 1: it only send　gross weight at the weighing mode. at the counting mode, it will send GW, unit weight and PCS. Cont 2: it is TOLEDO standard protocol　Cont 3: NA Control command: Press PC keyboard "T", the indicator will do tare operate, the indicator will show net weight. Press PC keyboard "Z" to rezero the scale if small amounts of weight are shown when the platform is empty. Sei re: connect with remote display ASK: ask and answer mode, PC send data "R" to T2000A, then T2000A send weighing data back to PC. The function of "T" and "Z" is as "P-CONT". P auto: auto print After you setting, display will show "b xxxx", use TARE key to select baud rate (600bps~9600bps) Then display shows "PR x", set the date/time print format, Then display show "LAB x", set gross/acc print format, you can see detail print out format table below. Then display show the printer type TY-TP: mini ticket printer TY 711: A711 label printer LP-50: LP-50 label printer BT-IN: use T2000AP built-in mini printer. (only T2000AP)	
Prog	Pin	Enter the programming and calibration menus by entering the correct password. See the calibration section for details.	

When the scales are set to display in other units of weight the accumulation function is still keeping the weight in kilograms.

Pressing ZERO/ENTER will allow you to set the function.   It may be necessary to either use TARE/+ or set a value using the SMPL/← key and UNITS/→ key to move the active digit and then using the TARE/↑ key to increment a digit, followed by the ZERO/ENTER key to enter the value. Use the PRINT/ESC key to leave a parameter unchanged.

For example when the display shows "F0   H-L" press the ZERO/ENTER key to begin. The display will show "Set Lo",   press the ZERO/ENTER   key to set the low limit, or press the TARE/+ to skip to the next parameter, "Set Hi" for setting the high limit.

After pressing the ZERO/ENTER key to set a limit, use the SMPL/← key and UNITS/→ keys to change the flashing digit, then use the TARE/↑ key to increment the flashing digit.   Continue to the next digit and set it as needed.

When all digits have been set press the ZERO/ENTER key to store the value.   The display will go back to the parameter just set, i.e. "Set Lo". Advance to another parameter if needed or press the PRINT/ESC key to return to weighing.

FUNCTION MENU SETTINGS

FUNC-TION	SUB-FUNCTION	DESCRIPTION	DEFAULT VALUE
F0 H-L	SEt Lo	Set a value for the Low limit.	000.000
	SEt HI	Set a value for the High Limit.	000.000
F1 toL	to CLr	Clears the accumulation memory without printing the results.	
	to P-C	Prints the Accumulation memory total and then clears the memory.	
	to Prt	Prints the Accumulation Total, does not clear the memory.	
F2 unt		Sets the displayed second unit of weight. Select g, Lb, oz , hj or tj.	kilogram, kg
F3 tl	SEt dA	Set date, The display will show last date set or 00.01.01. Enter new date, format yy. mm. dd	
	SEt tl	Set time, The display will show current time Enter new time, format hh. Mm .ss	

Place a container on the platform, a value for its weight will be displayed. Press the TARE key to tare the scale. The weight that was displayed is stored as the tare value and that value is subtracted from the display, leaving zero on the display. The "TARE" indicator will be on. As product is added only the weight of the product will be shown. The scale could be tared a second time if another type of product was to be added to the first one. Again only the weight that is added after taring will be displayed.

When the container is removed a negative value will be shown. If the scale was tared just before removing the container this value is the gross weight of the container plus all product that was removed. The zero indicator will also be on because the platform is back to the same condition it was when the ZERO/ENTER key was last pressed.

3.3 Weighing a sample.   To determine the weight of a sample first tare the empty container then place the sample in the container.   the display will show the weight and the units of weight currently in use.

4. Parts Counting

When the scale is showing weight, pressing the SMPL key will start the parts counting function.

Before beginning, tare the weight of any container that will be used, leaving the empty container on the scale. Place the number of samples on the scale.   The number should match the options for parts counting, 10, 20, 50, 100 or 200 pieces.

Press the SMPL key to begin.   The scale will show   "SP   10" asking for a sample size of 10 parts.   Change the sample size by pressing the TARE/↑ key.   the display will cycle through the options: 10,20, 50, 100, 200 and back to 10.

Press the ZERO/ENTER key when the number matches the number of parts used for the sample.   As more weight is added the display will

show the number of parts (pcs).

Press the FUNC key to return to normal weighing.

5. Check-Weighing

Check-weighing is a procedure to cause an alarm to sound when the weight on the scale meets or exceeds values stored in memory. The memory holds values for a high limit and a low limit. Either limit can be used or both can be used.

See PARAMETERS SECTION for the procedure to be used to set the limits, function "F0 H-L" is used. After limits have been set the Check-weighing function is enabled.

When a weight is placed on the scale the arrows will show if the weight is above or below the limits and the beeper will sound as described below.

BOTH LIMITS SET

The display will show OK and the beeper will sound when the weight is between the limits.

LOW LIMIT SET,

HIGH LIMIT is set to zero

The display will show OK and the beeper will sound when the weight is less than the Low Limit. Above the Low Limit the display will show HIGH and the beeper will be off.

HIGH LIMIT SET,

LOW LIMIT is set to zero

The display will show LOW and the beeper will be off when the weight is less than the High Limit. Above the High Limit the display will show OK and the beeper will be on.

BOTH LIMITS SET. LOW IS SET GREATER THAN HIGH

The beeper will never sound and the display will show LOW if the weight is less that the LOW limit, and HIGH if

the weight is greater than the Low Limit.

NOTE: The weight must be greater than 20 scale divisions for the checkweighing to operate.

To disable the Check-Weighing function enter zero into both limits by pressing the FUNC/C key when the current limits are shown then pressing ZERO/ENTER to store the zero values.

6. Accumulated Total

The scale can be set to accumulate manually by pressing the PRINT key. See the PARAMETERS Section for details of selecting the method using function "F5 PRT". The accumulation function is only available when weighing. It is disabled during parts counting.

The weight displayed will be stored in memory when the PRINT key is pressed and the weight is stable.

The display will show "ACC 1" and then the total in memory for 2 seconds before returning to normal. If the optional RS-232 interface is installed the weight will be output to a printer or PC.

Remove the weight, allowing the scale to return to zero and put a second weight on. Press the PRINT key, the display will show "ACC 2" and then the new total. Continue until all weights have been added.

To view the totals in memory press PRINT key in zero point.

To clear accumulation memory press enter the PARAMETER SECTION and use function "F1 TOL". See below.

7. PARAMETERS

The scale has 6 parameters that can be set by the user plus a method of entering the calibration section.

To set parameters press the FUNC key.

The display will show the first function, "F0 H-L".

Pressing the TARE/+ will cycle through the other functions.