COUNTING SCALE User and Service Manual

Model: CCT10/CCT20
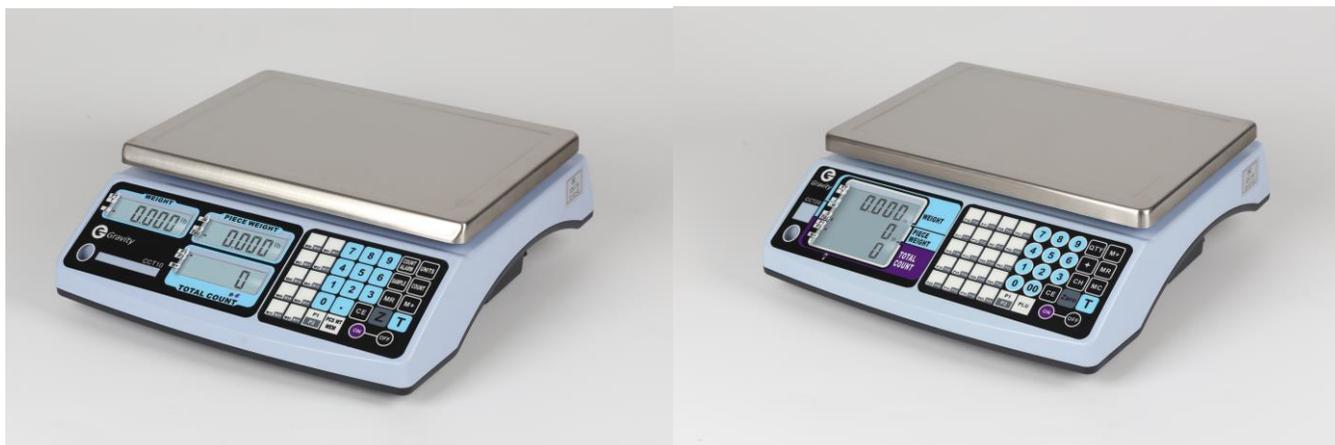
Please read this manual carefully before operation
----General Precautions
----Operating condition and other attentions
----Warranty

GRAVITY MEASUREMENT, INC.

Important Safety Information

READ ALL INSTRUCTIONS BEFORE USING SCALES TO ENSURE MAXIMUM SAFETY, BEST PERFORMANCE, AND TO GAIN KNOWLEDGE OF OUR SCALE, IT IS ESSENTIAL THAT YOU OR ANY OTHER OPERATOR OF THE SCALE READ AND UNDERSTAND THE CONTENTS OF THIS MANUAL BEFORE OPERATING THE DEVICE.

When using an electrical device, basic precautions should always be followed, including the following:

1. Please use only the original power cord or DC adapter supplied with the scale. Other cords or adapters may damage the scale.
2. DC adaptor is used to charge the battery, and scale can operate without DC adaptor.
3. Avoid using long power extension cords – this may cause interference
4. Do not use on surfaces or in areas where vibration, air movement or temperature change. Do not place in direct sunlight or near air conditioning vents.
5. Avoid high humidity (greater than 80%) that might cause condensation, and keep away from direct contact with water and other corrosive chemicals.
6. Static may influence the weighing result. To reduce the static, wipe the pan and scale with anti-static wipes.
7. Don't impact or drop heavy objects on the scale – this may affect accuracy, or cause damage. Do not stack material on the scale when it is not in use.
8. Battery should be removed if the scale is not used for a long period of time. Battery should be recharged every 3 months.
9. Place items to be weighed as close to center of the pan as possible
10. Only use fingers to operate the keypad. Do not press with hard or sharp objects.

Warranty

Gravity Measurement, Inc. (Schenectady, New York) offers one-year limited warranty (parts and labor) for the components failed due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Gravity Measurement. The company or its authorized technician reserves the right to repair or replace the components at any of its workshops depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the service center should be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Gravity Measurement.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorized modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual. Additionally, rechargeable batteries (where supplied) are not covered under warranty.

Repairs carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

<u>What is inside Box</u>

AC/DC adaptor (110V)

Counting scale CCT 10/20 Scale, with adhesive film covered platter. Two parts are separated to protect the load cell during transportation.

Two wire seals. The wire seal is used usually by the inspector of Department of Weight and Measure or authorized dealer. The wire seal is threaded through a metal rode that protrudes through the bottom of the device and also through a hole in the scale base adjacent to the metal rode.

<u>Set up the Scale</u>

Place the scale on a stable, level surface out of the way of air currents. The scale must be level during use. Adjust the feet and use the integrated bubble at the front of the scale to achieve level. Be sure that scale does not rock back and forth. Ensure no weight is on the pan when turning on the scale. Scale is operated using the rechargeable battery. AC adaptor is used to charge the battery, and scale can operate without DC adaptor.

<u>LCD Display</u>

<u>CCT10</u>
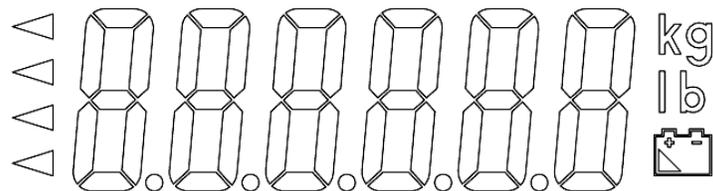
Size: 77 mm x 27 mm X 2.8 mm
Font height: 16 mm

CCT20

Size: 80 mm x 71 mm X 2.8 mm,
Font height: 16 mm

Control Panel

				7	8	9	COUNT ALARM	UNITS
M01 M36	M11 M31	M01 M26	M01 M21	4	5	6	SAMPLE	COUNT
M17 M37	M12 M32	M07 M27	M02 M22	1	2	3	M R	M +
M18 M38	M13 M33	M08 M28	M03 M23	0	.	C E		
M19 M39	M14 M34	M09 M29	M04 M24	P1	PCS WT MEM	ON	OFF	
M20 M40	M15 M35	M10 M30	M05 M25					
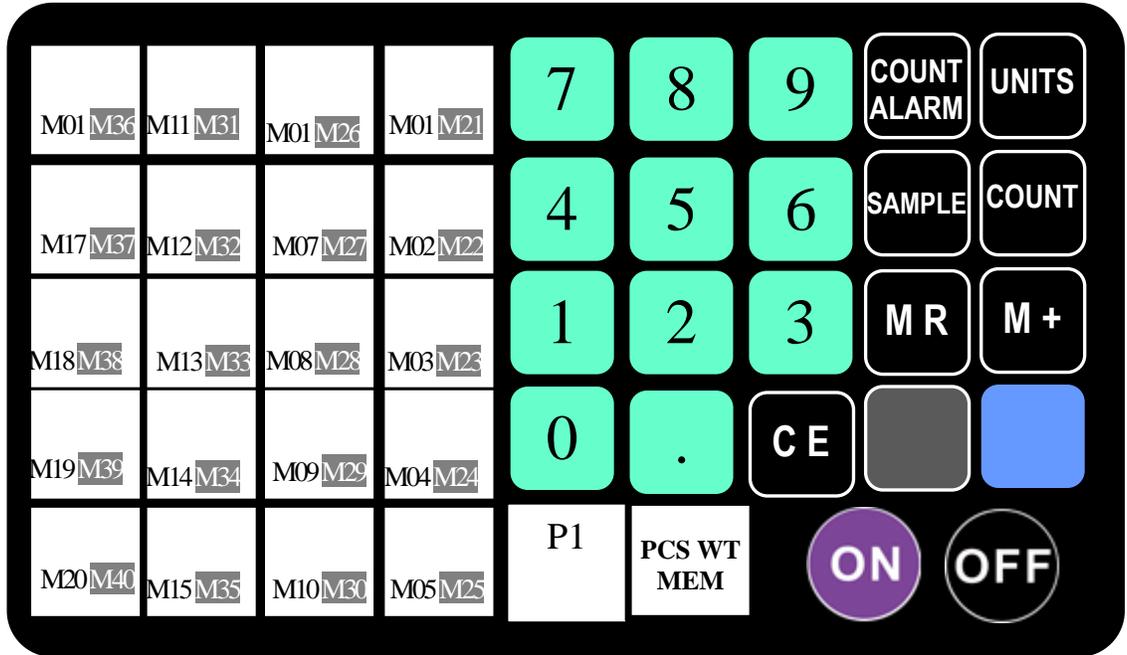
KEY DESCRIPTION for MODEL CCT10

OFF   Press and hold this key for 2 seconds to turn off the scale.

ON   Press this key briefly to turn on the scale. A self-test will run on the display and then stabilize showing zero

UNITS   Select the desired weight unit in setup mode.

Reset the weight to zero "0", but the display value has to be lesser than ± 2% of maximum capacity. In the setup mode, it means moving up.

Tare: Subtract the container´s weight. Maximum tare = full capacity
Preset Tare: Press Tare key with no object on the pan. Use 0 ~ 9 number keys to enter the preset tare weight value. Press the tare key to confirm.
Clear Preset Tare: Press the Tare key again to clear the preset tare with no object on the pan.
In the setup mode, it means moving up.

COUNT   Manually set up piece weight. Use 0~9 number key and decimal 【.】 key to enter piece weight，and then press 【count】 key to initiate counting. Weight window displays total weight，piece weight window displays piece weight，and total count window displays the counts.

SAMPLE   When weight window displays weight, use 【0~9】 number keys to set sample size and press 【sample】 key to initiate the calculation of piece weight.

COUNT ALARM   **Set count alarm:** Press this key when total count window displays pieces to set the alarm. The current count is set as the alarm count.   When the counting number is greater than this set number, PIECE WEIGHT window shows -9 h ı - - and the buzzer starts to alarm.
Clear count alarm：press and hold the 【Count Alarm】 key until buzzer beeps twice。Set point will auto cancel when turn off the scale.

M +
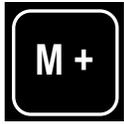
Accumulate weight and count. The piece weight window briefly shows ⌐O⊢⌐ . The scale can accumulation up to 99 times. In the setup mode, it means enter (confirmation).

M R

Display total accumulated count, total accumulated weight, and total count. Clear accumulation：press and hold the【MR】key until buzzer beeps twice, then clear accumulation

PCS WT MEM

Save piece weight into memories
Press this key and one of memory keys (M01-M40) to save the current piece weight. In addition, you can also use 0~9 number key and decimal 【.】key to manually enter piece weight, and then press the【PCS WT MEM】key, followed by one of memory keys. To recall the memories, just press the memory keys (M01-M40) you have saved before.

C E

Clear the piece weight window. In the setup mode, it means exit.

P1
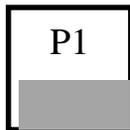
Select piece weight memory range. P1: M01 to M20, P2: M21-M40. On LCD display, the current selected range is indicated by ◄

User Functions (UF1 -- UF9)

At weighing mode，press and hold the【T】key，then press the【M+】key，weight window will show UF-1，press【T】key or【Z】key to cycle select UF-1~UF-8

Table: List of User Functions

Display	Function	Description
UF-1	Internal value/ display battery voltage/internal value(zero)	Press 【M+】key to enter，weight window displays internal value (SPAN)，piece weight window displays battery actual voltage, total count window displays internal value(zero), Press【CE】key to exit

UF-2	Piece weight auto-average	Press 【M+】 key to enter, display $AA_{u}G$ 1 (default factory setting）, Use 0 and 1 keys to enable or disable auto-average function, Press 【M+】 key to confirm, press 【CE】 key to exit
		$AA_{u}G$ 0：Disable $AA_{u}G$ 1：Enable
UF-3	Auto power-off	Press 【M+】 key to enter, $AoFF00$ (factory default, 00 means auto power-off is off). Use 0~9 keys to enter auto power-off time in minutes. Press the 【M+】 key to confirm, press 【CE】 key to exit。
UF-4	Backlight	Press 【M+】 key to enter. Use 0 ~2 keys to select backlight mode
		L_{it} 0：Auto (factory default)
		L_{it} 1：backlight on
		L_{it} 2：backlight off。
		Press 【M+】 key to confirm, Press 【CE】 key to exit。
UF-5	Accumulation	Press 【M+】 key to enter. Use 0~2 keys to select accumulation conditions. Press the 【M+】 key to confirm：
		$ACCU00$ (factory default)
		AB
		A: 0--- Stable required
		A: 1--- Stable not required
		B: 0---The weight has to return to zero to accept next accumulation
		B: 1--- The weight does not have to return to zero to accept next accumulation
		B: 2-- No tare weight to accept next accumulation
		Press 【M+】 key to confirm. Press 【CE】 key to exit
UF-6	RS-232 output	Press 【M+】 key to enter. Use 0~4 keys to enter RS232 output formats.
		$232\ 30$ (factory default)
		AB
		A: Baud rate setup
		0：1200 1：2400 2：4800 3：9600 4：19200
		B：Output mode setup
		0：RS232 output disable 1：Manual output (formats 2
		Press 【M+】 key to confirm. Press 【CE】 key to exit
UF-7	A/D update rate	Press 【M+】 key to enter. Use 0~2 keys to enter ADC speed:

		`SPEEd0` ：low speed (factory default), 7.5 Hz

`SPEEd0` ：low speed (factory default), 7.5 Hz

`SPEEd1` ：standard speed, 15 Hz

`SPEEd2` ：High speed, 30 Hz

Press 【M+】 key to confirm, and press 【CE】 key to exit.

UF-8	Display condition at zero	Use 0~5 keys to enter condition at zero, Press the 【M+】 key to confirm：

`ZP   1` ： 1 division not to display at zero (factory default)

`ZP   2` ： 2 division not to display at zero

`ZP   3` ： 3 division not to display at zero

`ZP   4` ： 4 division not to display at zero

`ZP   5` ： 5 division not to display at zero

Press 【M+】 key to confirm, press 【CE】 key to exit.

Selectable Weighing Unit (Factory Default kg)

Press and hold the 【M+】 key and press the 【UNITS】 key until "units 1" for kg appears. For kg and lb, press the 【T】 key to move to "units 2". Press the 【M+】 key to confirm the setup and return to regular weighing mode.

Standard Calibrations

At weighing mode，press and hold the 【Z】 key，then press the 【M+】 key，press 【T】 key or 【Z】 key to select ECF-1~ECF-3

ECF-1	Weight calibration	Press the 【M+】 key to enter， display internal value, press the 【M+】 key to calibration the zero weight after stable， Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale， press 【M+】 key to confirm the calibration procedure completed， press the 【CE】 key return to previous setup mode
ECF-2	Zero calibration	Press the 【M+】 key to enter， display internal value, press the 【M+】 key to calibration the zero weight after stable， press the 【CE】 key return to previous setup mode
ECF-3	SPAN calibration	Press the 【M+】 key to enter. Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale, Place the required weight mass onto the scale， press 【M+】 key to confirm the calibration procedure completed， press the 【CE】 key return to previous setup mode

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Error Messages and Troubleshooting

Error Display	Meaning	
hhhhhh	Overload	Weight on pan exceeds maximum capacity
LLLLLL	Weight is too low	Weight is too low at the negative
------	Price is out of range	Total price exceeds 999999
Err n	Weight unstable	Vibration or varying load on the pan during switch-on
Err H	Initial zero too high	Scale turned on with weight > 10% of maximum capacity already on the pan
Err L	Initial zero too low	Scale turned on with upward force > 10% of maximum capacity acting on the pan
Battery symbol visible	Battery voltage is lower than 5.6 V	Battery neds charging. Connect to main adaptor. Press 【 T 】 and 【 6 】 together to view battery voltage. Press 【CE】 to return to weighing mode
Battery symbol flashing	Battery voltage is lower than 5.5 V	Battery needs charging. Connect to main adaptor
Scale automatically shuts off	Battery voltage is lower than 5.4 V	Battery needs charging. Connect main adaptor

At setup mode,

Key	Function at Set up
【M+】	Enter (Confirmation)
【Z】	Move up
【T】	Move down
【CE】	Clear entry or exit

Press 【Z】 and the 【M+】 to start Standard Calibrations

ECF-1   Weight Calibration (Zero and Span)

ECF-2   Zero Calibration

ECF-3   SPAN Calibration

Press 【M+】 to confirm, and Press 【Z】 or 【T】 to move up or down for different ECF functions

ECF - 1 Weighing calibration

0.0000 lb 10 1 140	Step 1: Press 【M+】 to start (Press 【CE】 to exit menu and back to weighing mode). The first line (Weight window) blinks. Total count displays an internal value. Press 【M+】 to calibrate the zero weight (Press 【CE】 to terminate the calibration back to ECF-1)
4.4093 lb 2 1 1647	Step 2: Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the 【CE】 to terminate the calibration back to ECF-1)
4.4094 lb 0 lb 0	Step 3: Press the 【M+】 to calibrate the scale (Press the 【CE】 to terminate the calibration back to ECF-1) Calibration procedure completes and the scale returns to weighing mode automatically

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ECF-2 Zero calibration

```
0.0000 lb

10 1 140
```

Step 1: Press 【M+】 to start (Press 【CE】 to exit menu and back to weighing mode). The first line (Weight window) blinks.   Total count displays an internal value.
Press 【M+】 to calibrate the zero weight (Press 【CE】 to terminate the calibration back to ECF-1)

```
0.0000 lb
       0 lb
       0
```

Step 2: Calibration procedure completes and the scale returns to weighing mode automatically

ECF -3 Span calibration
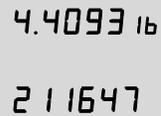
```
4.4093 lb

2 1 1647
```

Step 1: Press 【M+】 to start (Press 【CE】 to exit menu and back to weighing mode). The first line (Weight window) blinks. Total count displays an internal value. Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the 【CE】 to terminate the calibration back to ECF-1)

```
4.4094 lb
       0 lb
       0
```

Step 2: Press the 【M+】 to calibrate the scale (Press the 【CE】 to terminate the calibration back to ECF-1)

Calibration procedure completes and the scale returns to weighing mode automatically

Approval Calibrations and Functions Setup (Lock section) :

While turning on the scale and press and hold 【Z】, release both keys after countdown sequence is completed, and $LF\ 1$ is shown on Weight window. Use 【M+】 to rotate different LF functions.

$LF\ 1$ Weight Calibration
$LF2$ Spec Calibration
$LF3$ Linearity Calibration
LF7   G Value

CAL switch has to be ON
Password required when CAL switch is OFF

P0020 10 1 140	Step to set password Press the 【M+】 to start, and Press 【M+】 again to confirm

LF 1 Weight Calibration:

※ Calibration can be done with any weight, but the weight should not be less than 1/100 of the max. capacity and not to exceed the max. capacity

※ The scale will display the last saved setup. If LF 2 spec calibration has been reset, max. calibration capacity will be displayed

0.0000 lb 10 1 140	Step 1: Press 【M+】 to start (Press 【CE】 to exit menu and back to weighing mode). The first line (Weight window) blinks. Total count window displays an internal value. Press 【M+】 to calibrate the zero weight (Press 【CE】 to terminate the calibration back to ECF-1)
4.4093 lb 2 1 1647	Step 2: Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the 【CE】 to terminate the calibration back to ECF-1)
4.4094 lb 0 lb 0	Step 3: Press the 【M+】 to calibrate the scale (Press the 【CE】 to terminate the calibration back to ECF-1) Calibration procedure completes and the scale returns to weighing mode automatically

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LF 2   Spec Calibration :

```
060000 lb
dP4      lb
d iu2
```

Step 1: Press 【M+】 to start (Press 【CE】 to exit menu and back to weighing mode).

Enter the maximum capacity. Use the UNITS key to select calibration weighing unit. Available units are kg, g，and lb. Use ZERO TARE and 0~9 keys to enter the maximum capacity of the scale

Step 2: Enter the position of the decimal point. The position of the decimal point can be from 0 to 4

Step 3: Enter division 1,2 or 5

Use 【Z】or【T】and【M+】keys to select other calibrations (Press the 【CE】 key to exit menu and the scale will restart automatically) Calibration procedure completes and the scale returns to weighing mode automatically

LF3   Linearity Calibration

LF7   G Value

Sender G value: Set it before Weight Calibration

Recipient G value: Set it after Weight Calibration

The G value will be denied when the value is greater than 9.83217 (Polar G value) or less than 9.78031 (Equator G value)

Factory default: 9.79423

```
9.79423
9.79423
```

Weight window displays recipient's location G value，and piece weight window displays sender's location G value

Use【Z】or【T】and 0~9 keys to enter G value. Press the 【M+】 key to finish

(Press【CE】 to terminate the calibration back to LF 7)

Use 【Z】or【T】and【M+】to select other calibrations (Press 【CE】to exit menu and the scale will restart automatically)

To maintain NTEP certification, the unit must not be opened. Weights and Measures stickers are used to seal the unit and prevent it from being opened. Whoever installing this scale is responsible for placing stickers on the unit.

Gravity Measurement, Inc.

611 Rotterdam Industrial Park
Schenectady, NY 12306

Tel: 518-526-5942

http://www.gravitymeasurement.com

GRAVITY MEASUREMENT, INC.