Totalcomp

Scales & Components

TCM2

Series

Counting Scale

Operation Manual

V1.0

Contents Subject to Change without Notice

CONTENT

TCM2 Counting Scale Instruction Manual

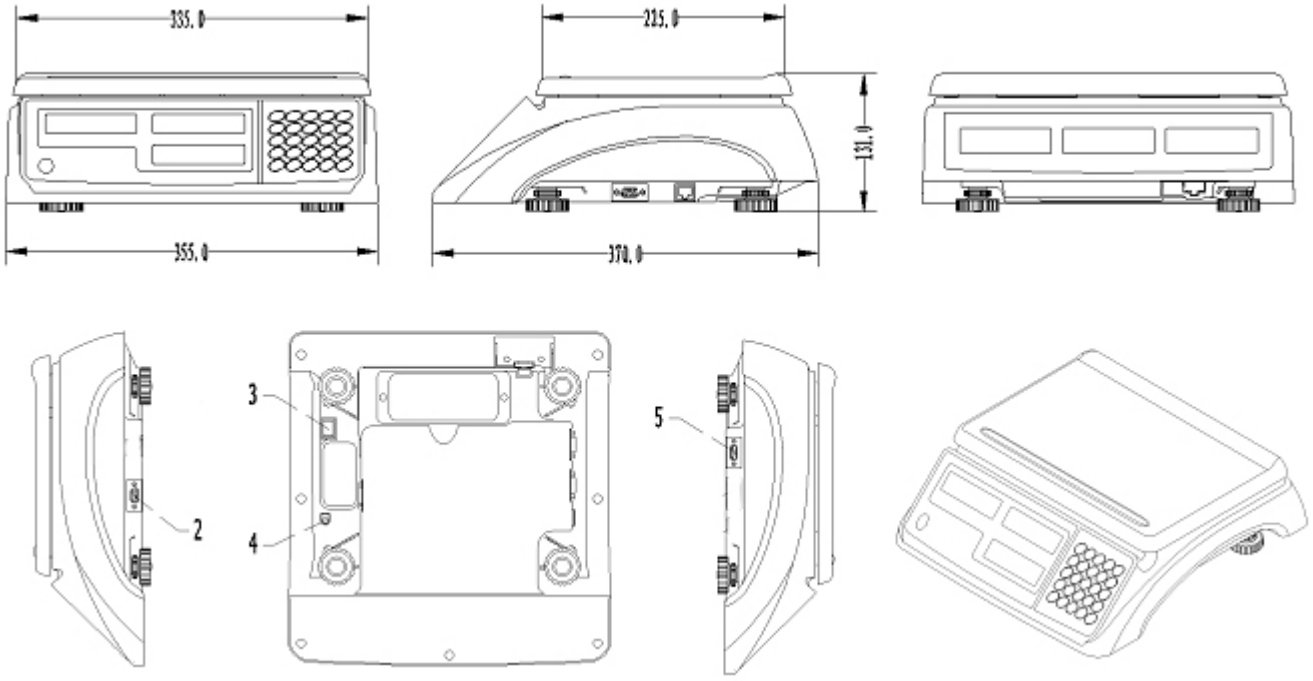
Thank you for purchasing Model TCM2 Counting Scale. Please read all operating instructions carefully before using and note the following points:

- Avoid using in extreme heat, cold or wet and the environment which has intensive change in temperature, humidity and pressure.
- Allow sufficient warm up time after turn the scale on, to allow the internal components and load cell to have enough time to stabilize and balance heat.
- Do not operate near an in-use cell phone, radio, computer or other electronic device as these devices emit RF and maybe cause unstable scale readings.

1. Specification

Model No	**TCM2-15**	**TCM2-30**	**TCM2-60**
Capacity (FS)	6kg/15lb	15kg/30lb	30kg/60lb
Division	0.2g/0.0005lb	0.5g/0.001lb	1g/0.002lb
Max weight	6.0018kg/12.0045lb	15.0045kg/30.009lb	30.009kg/60.018lb
Min Reference Sample weight	30g	75g	150g
Min. piece weight	0.02g/0.00005lb	0.05g/0.0001lb	0.1g/0.0002lb
Tare range	3kg / 6lb	6kg / 15lb	15kg / 30lb
UTP No.	256 (include unit, tare weight, piece weight)		
Zero range	Power-on zero range：calibration zero point ±15%FS_kg； Zero Key range：power-on zero±5%FS_kg		
Tare range	0-100%FS		
LCD display	0.73",18 digits：6 digit for weight,6 digit for piece weight,6 digit for pieces		
RS232	Built in		
Working temp.	0℃ ～ 40℃		
Power supply	(1)12Vdc≥500mA with positive center AC adaptor or 6Vdc4AH lead-acid battery. (2)Average working current is about 120mA（excluding current of charger, printer, and backlight） (3) When using AC adaptor, the lamp of "AC" is on. When charging the battery, the lamp of "CHG" is on.		
Rechargeable battery life	The rechargeable battery can make scale continuously work for more than 24 hours after fully recharged and without remote platform and backlight. When the battery voltage is below 5.6v, the "Lo.bat" will be displayed, and beep for 10 seconds and then auto off.		
Scale dimension	WxDxH: 355x370x131 (mm) or 14"x14½"x5" (inch)		
Platter size:	WxD: 335X225 (mm) or 13"x 9" (inch)		
The 2nd platform	Number of platform:2; division numbers : n=1000-30000; division value: d=0.0001-0.0002-0.0005---0.001-0.002-0.005--- 0.01-0.02-0.05---0.1-0.2-0.5---1-2-5 kg/lb		

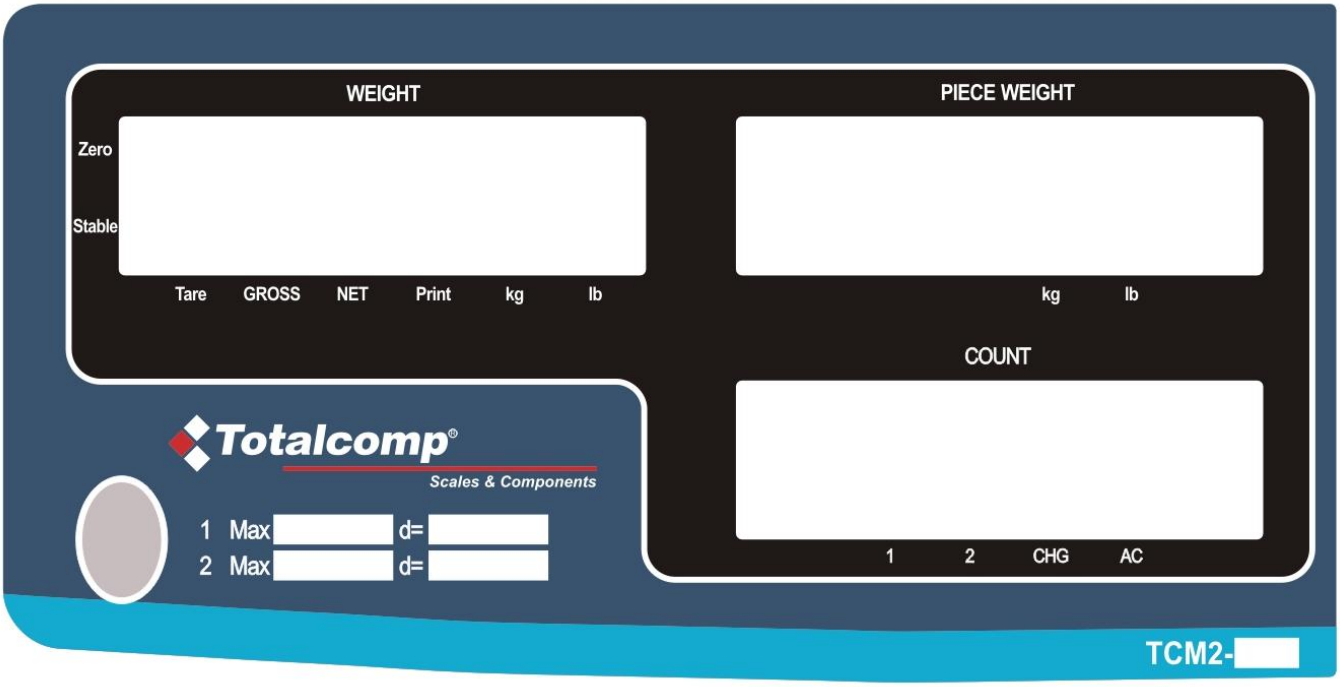
2. Housing



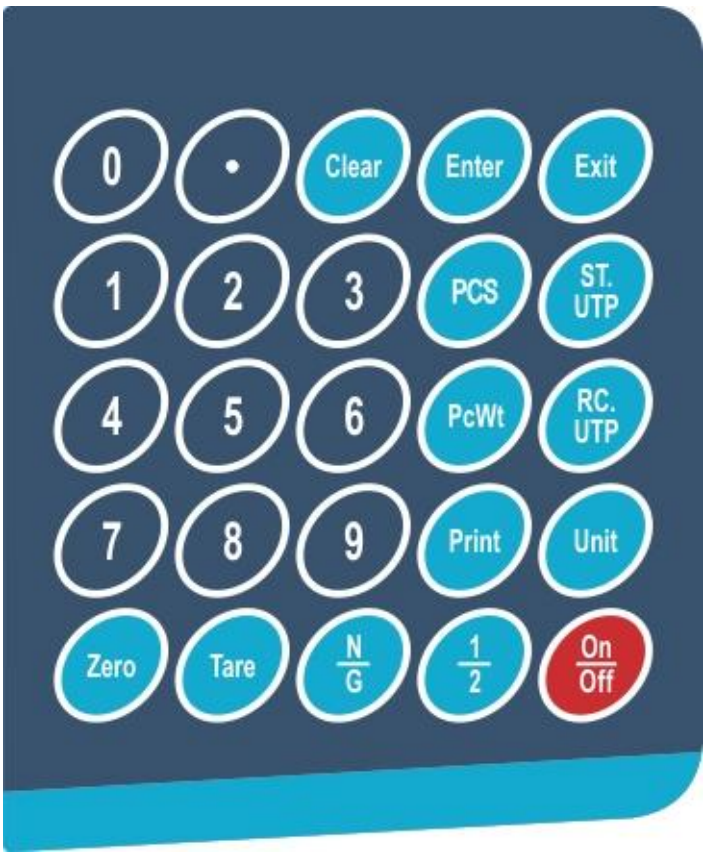
Interface: (2) load cell connector DB9 Male (3) Rocker switch
(4) AC power adapter input (5) RS232 connector DB9 Female

3. Faceplate

3.1 Front Display Panel:



3.2 Key Pad



3.3 Symbol Meaning:

3.3.1 **WEIGHT:** Weight window.

3.3.2 **PIECE WEIGHT**：Piece weight window.

3.3.3 **COUNT**：Count window.

3.3.4 **ZERO**：Zero indicator.

3.3.5 **TARE**：Tare indicator.

3.3.6 **Kg/Lb**：Weight unit indicator.

3.3.7 **Kg/Lb**: Piece weight indicator.

3.3.8 **PRINT**：Data output indicator.

3.3.9 **1/2**：1: Main platform is used; 2: Remote platform is used.

3.3.10 **CHG**：Battery charging indicator.

3.3.11 **AC**：AC adaptor in-use indicator.

3.3.12 **PCS:** Enter number of pieces in sample

3.3.13 **GROSS:** Gross weight is displaying

3.3.14 **Net:** Net weight is displaying

4. Keys function Summary

4.1 **0~9:** numeric keys：Enter numerical data.
4.2 **CLEAR**: Clear the input data and accumulated pieces.
4.3 **EXIT**: When scale is not in normal weighing mode, EXIT key is used to exit and back to normal weighing mode.
4.4 **ENTER**: Confirm the operation or save the data.
4.5 **ZERO**: Set the zero point when scale is stable, zero range: power-on zero point ±5%FS.
4.6 **TARE**: Set tare weight when scale is stable, tare range: -100% to +100%FS. Switch to NET.
4.7 **UNIT**: Select weight unit between Kg or Lb.
4.8 **PCWT**: Press down, go to directly input piece weight mode.
4.9 **PCS:** Press down, go to Input sample quantity and calculate piece weight mode.
4.10 **ST.UTP**: Set and Store a UTP：to set its piece weight, tare weight and its unit mode.
4.11 **RC.UTP**: Recall a UTP: recall stored piece weight, tare weight and its unit mode.
4.12 **N/G**: Press down to toggle between net and gross
4.13 **PRINT**: Output the data via RS232 port.
4.14 **1/2:** To select remote platform or local platform.
4.15 **ON/OFF:** Turn on the scale, or turn off the scale.
4.16 **ON/OFF** +**0**: Press down more than three seconds to enter the calibration mode.
4.17 **ON/OFF** +**1**: Press down more than three seconds to setup the LCD's contrast and Backlight mode setting
4.18 **ON/OFF** +**2**: Press down more than three seconds to setup the auto-off time.
4.19 **ON/OFF** +**3**: Press down more than three seconds to enter display A/D inner code/working voltage mode
4.20 **ON/OFF** +**4**: Press down more than three seconds to enter RS232 parameters setup mode
4.21 **ON/OFF** +**5**: Press down more than three seconds to enter the date and time setup mode
4.22 **ON/OFF** +**6**: Press down more than three seconds to enter ID setup mode
4.23 **ON/OFF** +**TARE**: Press down more than three seconds to enter setup parameters of the second platform
4.24 **ON/OFF** +**PRINT**: Enter LCD test mode.

5. Weighing Operation

5.1 Turn the power on and off

5.1.1 When the scale is off, press **"ON/OFF"** key to power on the scale. The self-test will run and the scale will give the zero reading. Now it is ready for weighing.

5.1.2 When the scale is beyond the zero point range after powering on (Calibration zero point±15%FS), the scale displays "**Err04**"or"**Err05**".

5.1.3 Under the normal weighing mode, press "**ON/OFF**" to power off the scale.

5.2 Operation of Zero Key

5.2.1 Under the normal weighing mode, the zero function can be operated when the scale reading is stable.

5.2.2 The scale will display "**Err04**"or"**Err05**" when the scale is over zero range.

5.3 Operation of Tare Key

5.3.1 This operation includes weight tare and keypad tare, Net weight=Gross weight-Tare weight

5.3.2 **Set Weight tare:**

In either gross or net weighing mode, when scale reading is stable, press "Tare" key to set the weight tare.

5.3.3 **Set keypad tare:**

In the normal weighing mode, input the tare weight to the weight window by numerical keys, and press "Tare" key to confirm the setting of keypad tare weight, or press "**RC.UTP**" key to recall the stored keypad tare weight. Use "Exit" key to exit this mode.

5.3.5 Example:

5.3.5.1 **Weight-tare set:**

Power on the scale
Put 100g on the platter
Press Tare key to set Weight-tare to 100g
Remove the weight, the scale reads -0.100kg
Put 200g on the platter
Press Tare key
Remove the weight, the scale reads -0.200kg
Tare
The scale reads 0kg

5.3.5.2 **Keypad-tare set:**

Power the scale on
Input 200 and confirm by" TARE" key to set keypad-tare weight to 200g
The scale reads -0.200kg
Input 100 and confirm by "TARE" key to set Digit-tare weight to 100g
The scale reads -0.100kg

5.5 Changing Weighing unit

Under the normal weighing mode, press "**UNIT"** key to select the unit between kg and lb.

5.6 Print

5.6.1 Under the normal weighing mode, when the scale reading is stable, press "**PRINT**" key to output the data via RS232 interface as following format.

5.6.2 Print Out format (ref. to 10.8, the scale is connected to a PC and the PC is a HOST device)

5.7 To count when the average piece weight is known but not stored into memory (Input the piece weight directly)

5.7.1 Under the normal weighing mode, press "**PcWt**" to enter this mode. The WEIGHT window displays the current total weight, the COUNT window displays "PCwt" (Piece Weight), the PIECE WEIGHT window displays the input piece weight.

5.7.2 Press numerical keys 0～9 and clear key to input the piece weight.

5.7.3 Press **ENTER** key to save and record the input, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.7.4 Note：

The piece weight must be over or equal to the required minimum piece weight. If the input piece weight is less than the above range, the data will be not accepted and the scale will be reminded by "**Lo.PCwt**" when ENTER key be pressed.

5.8 To count when the average piece weight is unknown and not stored into memory (Input the samples quantity to calculate the piece weight)

5.8.1 Under the normal weighing mode, if the quantity of objects loaded onto the platter is known, press **PCS** key to enter into this mode. The WEIGHT window displays the weight, PIECE WEIGHT window displays "**SPL.PCS**" (Sample Pieces) and COUNT window displays the input quantity.

5.8.2 Press numerical keys 0～9 and clear key to input the know quantity.

5.8.3 Press **ENTER** key to save and record the input, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.8.4 Note：

The piece weight calculated by known quantities and weight must be over or equal to the minimum piece weight limit. If the input piece weight is less than the above range, the data will be not accepted and the scale will be reminded by "**Lo.SPwt**" when **ENTER** key be pressed, then it back to use original piece weight.

5.10 To store information into memory ID (Set UTPs)

Whether TARE and Average Piece Weight are known or unknown.

Start:

5.10.1 Press "**ST.UTP**" key to enter this mode. The WEIGHT window displays "**Set.UTP**" (This means the scale is under piece weight setup and storing mode), The COUNT window displays "**Addr.**" (This means the unit address of item needs to be set, the address range is 1-256), the PIECE WEIGHT window displays the input **Addr** data.

5.10.2 **Input address:** Use numerical keys 0～9 to input the address to be used for this item. Press "**ENTER**" key to confirm and go to the next step, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.3 **Select weight unit:** The PIECE WEIGHT window shows "kg" or "lb", which means the unit of the stored piece weight is kg or lb，the COUNT window shows "Unit"

5.10.4 Use **UNIT** key to choose kg or lb, press **ENTER** key to confirm and go to the next step, or press **EXIT** key to

exit this mode and return back to the normal weighing and counting mode.

5.10.5 **Set tare weight:** The PIECE WEIGHT window shows "**Sample**" or "**Input**", which means the tare weight is unknown (Sample) or known (Input), the COUNT window shows "**tar.mod**" (set getting tare weight mode).

5.10.6 Use **0~9** key to choose unknown or known tare weight, press **ENTER** key to confirm and go to the next step (STEP5.10.6.1 or STEP5.10.6.2), or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.6.1 **Unknown tare weight**: make scale at zero point and "ZERO" is lighted, put container on platter, weight will be shown in PIECE WEIGHT window, the COUNT window shows "**tar.SPL**" (Sample tare weight). Press **ENTER** key after scale is stable; the tare weight will be stored into memory.

5.10.6.2 **Known tare weight:** the original tare weight will be shown in PIECE WEIGHT window, The COUNT window shows "**tar.Inp**" (Input tare weight). if no need modifying the weight, just press **ENTER** key to confirm, otherwise, use numerical keys **0～9, "."** and CLEAR key to input the known tare weight. Press "**Enter**" key to confirm and store it into memory, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.7 **Set piece weight:** The PIECE WEIGHT window shows "Sample" or "Input", which means the piece weight is unknown (Sample) or known (Input), the COUNT window shows "**Pct.mod**" (set getting piece weight mode).

5.10.8 Use **0**~**9** key to choose unknown or known piece weight, press **ENTER** key to confirm and go to the next step (STEP5.10.8.1 or STEP5.10.8.2), or pres **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.8.1 **Unknown piece weight:** The COUNT window shows "**Pct.SPL**" (means SAMPLE piece weight), PIECE WEIGHT window shows samples net weight.

5.10.8.1.1 If need, use **TARE** or **ZERO** key to make scale read 0, Put samples on platter, weight will be shown in PIECE WEIGHT window. Press **ENTER** key after scale is stable.

5.10.8.1.2 The COUNT window shows "**Inp.Pcs**" (means Input samples pieces), PIECE WEIGHT window shows original pieces.

5.10.8.1.3 If no need modifying the number, just press **ENTER** key to confirm, otherwise, use numerical keys **0～9** and **Clear** key to input the known pieces, Press **ENTER** key to confirm and go to the next step, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.8.2 **Known piece weight:** The COUNT window shows "**Pct.Inp**" (means input piece(s) weight), The PIECE WEIGHT window shows original piece(s) weight.

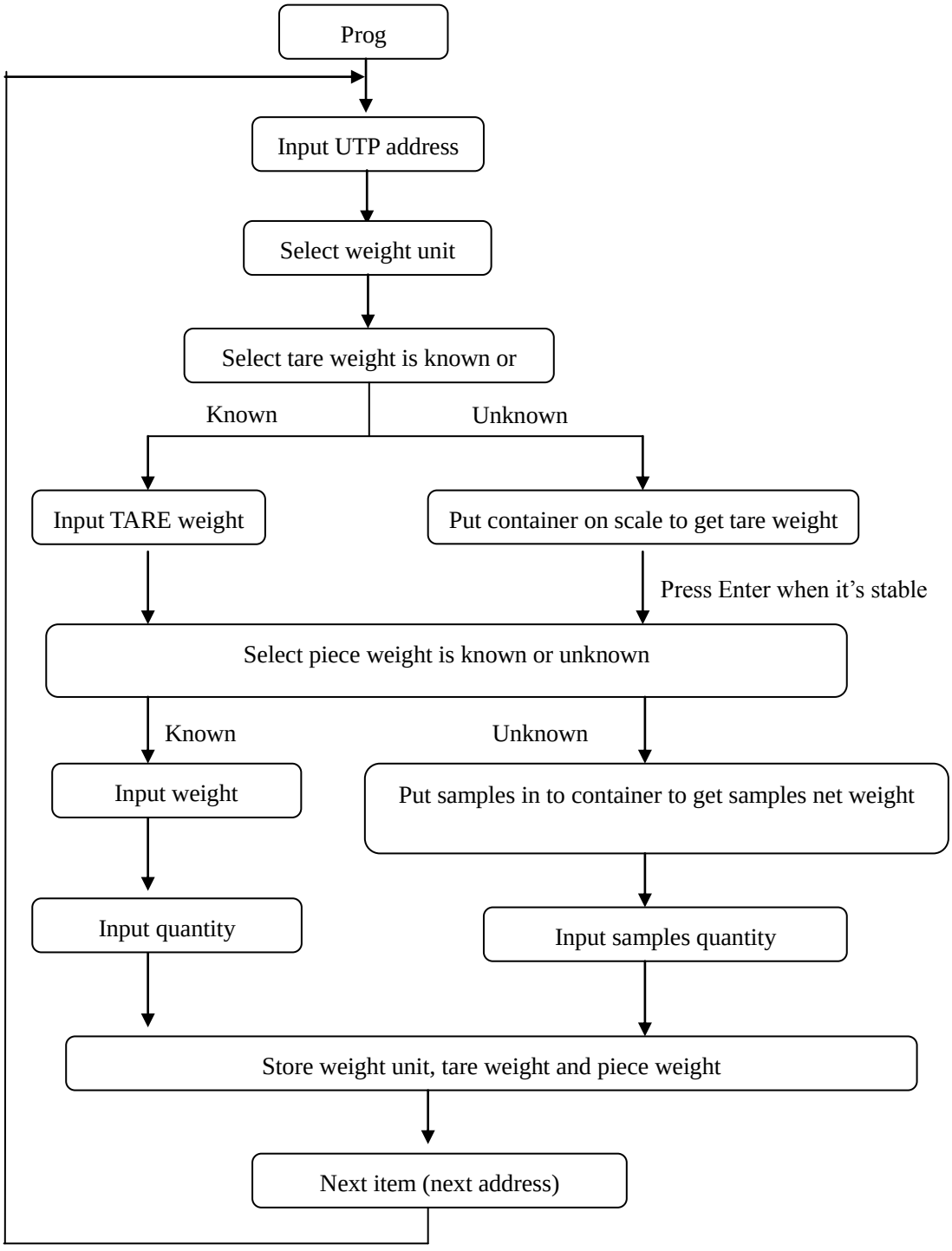
5.10.8.2.1 If no need modifying the piece weight, just press **ENTER** key to confirm, otherwise, use numerical keys **0～9, '.'** and **clear** key to input the known piece weight. Press "**Enter**" key to confirm and store it into memory and go to the next step, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

5.10.8.2.2 The COUNT window shows "**Inp.Pcs**" (means Input pieces number of the weight that you key in at above step 5.10.8.2.1) PIECE WEIGHT window shows original pieces. If no need modifying the number, just press **ENTER** key to confirm; If the weight that you key in on step5.10.8.2.1 is the weight of one piece of material, "1" should be input here; otherwise, use numerical keys **0～9** and **Clear** key to input the known pieces, Press **"Enter**" key to confirm and go to the next step, or press **EXIT** key to exit this mode and return back to the normal weighing and counting mode.

Note: Input this number can make counting more accuracy. e.g. a counting scale (TCM2-60) which capacity =30kg,division=1g, and min piece weight = 0.1g is used, and we know the piece weight of one material is 0.159g, if you key in directly this piece weight, only0.1g or 0.2g can be input, this will cause big error of counts. So, in this case, we can input159g in step5.10.8.2.1 and input 1000 in step 5.10.8.2.2, this will increase the accuracy of counting largely

5.10.9 If the proper piece weight is good, all the data (include weight unit, tare weight, piece weight) will be stored into memory and go to next item to set, repeat operations from step 5.10.1

5.10.10 Summary of the flow chart:



5.11 Recall information from memory

5.11.1 Under the normal weighing mode, press "**RC.UTP**" to enter this mode，then "**RC.UTP**" will be displayed in WEIGHT window (This means the scale is ready to recall the stored piece weight and tare weight), the COUNT window will display "Addr." (This means the address of item needs to be input, the **Addr** range is 001-256).The PIECE WEIGHT window displays the input **Addr**.

5.11.2 Use numerical keys **0**～**9** and **CLEAR** key to input the **Addr**. Press **ENTER** key to confirm and go to the next step, or press **EXIT** key or **CLEAR** key to exit this mode to return back to the normal weighing and counting mode.

5.11.3 Then the COUNT window displays will display **ERR40** if stored data is not correct; otherwise, stored weight unit, tare weight, piece weight will be used, and the scale will display the quantity.

6. Calibration

6.1 Under the normal weighing mode，press and hold **0** and **ON/OFF** key for more than 3 seconds to enter the calibration mode.

6.2 After entering into the mode, the WEIGHT window displays "**CAL**" the PIECE WEIGHT window displays "**Unit.0**" or "**Unit.1**", the COUNT window displays"------".

6.3 Use **UNIT** key to choose the calibration unit kg or lb (the corresponding unit indicator will be lighted), use **EXIT** to exit the mode, or **ENTER** key to confirm the unit and go to the next step.

6.4 The PIECE WEIGHT window displays "**unloAd**" (this means that the scale is ready to calibrate the zero point, please remove any weight from the platform), the COUNT window displays the output inner code of A/D. When the scale is stable and the unit indicator stops flashing, press **ENTER** key to confirm the zero point calibration, or use **EXIT** key to exit the mode.

6.5 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**LoAd1**" (this means it will be calibrated on standard weight for first point). Place a standard weight (more than 10%FS weight) on the center of the scale platter, when the scale is stable and the unit indicator stops flashing, press **ENTER** to confirm, or use **EXIT** key to exit the calibration mode.

6.6 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**InP.Ld**"（Input Load Weight）,the COUNT window displays 0，use **0-9** numerical key or **Clear** key to input loaded standard weight, then press **ENTER** key for confirmation. If this point can't be calibrated correctly (maybe the weight load onto scale is too small, maybe the input data is incorrect…), it will display "**CAL.Er**" and return back to step 6.4 for re-calibration.

6.7 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**LoAd2**" (this means It will be calibrated on standard weight for second point). To skip the second point calibration, press ENTER key to go to step 6.11. To continue second point calibration, place a standard weight (more than 10%FS weight, and larger than the weight used on **LoAd1**) on the center of the scale platter, press **ENTER** to confirm. if the standard weight is <= LoAd1, it will go to step6.11.

6.8 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**InP.Ld**"（Input Load Weight）,the COUNT window displays 0，use **0-9** numerical key or **Clear** key to input loaded standard weight, then press **ENTER** key for confirmation. If this point can't be calibrated correctly (maybe the weight load onto scale is too small, maybe the input data is incorrect…), it will display "**CAL.Er**" and return back to step6.4 for re-calibration.

6.9 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**LoAd3**" (this means it will be calibrated on standard weight for third point). To skip the third point calibration, press ENTER

key to go to step 6.11. To continue third point calibration, place a standard weight (more than 10%FS weight, and larger than the weight used on **LoAd2**) on the center of the scale platter, press **ENTER** to confirm the standard weight calibration after the scale is stable and the unit indicator stops flashing, if the weight is <= LoAd2 , it will go to step 6.11

6.10 The display of the WEIGHT window remains the same, the PIECE WEIGHT window displays "**InP.Ld**"（Input Load Weight）,the COUNT window displays 0，use **0-9** numerical key or **Clear** key to input loaded standard weight, then press **ENTER** key for confirmation. If this point can't be calibrated correctly (maybe the weight load onto scale is too small, maybe the input data is incorrect…), it will display "**CAL.Er**" and return back to step 6.4 for re-calibration.

6.11 When the PIECE WEIGHT window displays "**unLoAd**" again，the scale is ready to re-confirm the zero point, move away any weight on the scale, after the scale is ready and unit indicator stops flashing, press **ENTER** to confirm.

6.12 After the calibration completes, the scale will re-initialize to be ready for normal weighing.

6.13 If an error occurred in calibration, the scale will display CAL.Err (this normally means incorrect data input or loading weight), please return back to the last step or use **EXIT** to exit the calibration mode.

7. LCD contrast and Backlight mode setting

5.1 Under the normal weighing mode, press and hold down **ON/OFF** and **1** key at the same time until the WEIGHT window shows "Setup", PIECE WEIGHT window shows "LCd.CST" (LCD contrast) and the COUNT window shows the contrast level x（x=1-9,default is 5）. Use the numerical keys to input the contrast level, and press **ENTER** key for confirmation. Press **EXIT** key to exit this mode and the scale will automatically reset.

5.2 When WEIGHT window shows "BLGT.MD" (backlight mode) and the COUNT window shows the backlight mode code x（x=0-2）, Use the numerical keys to input the backlight mode, and press **ENTER** key for confirmation. Press **EXIT** key to exit this mode and the scale will automatically reset.

x=0 – back light is always off
=1 – back light is always on
=2 – back light is automatically turns on or off

8. Auto-off time setting

Under the normal weighing mode, press and hold **ON/OFF** and **2** key at the same time until the scale displays "**SetuP**" in WEIGHT window, "**A.OFF.t**" in PIECE WEIGHT window and auto-off time xx（xx＝00～30） in COUNT window. Use numerical keys to input the auto-off time and press "**ENTER**" key for confirmation. Press **EXIT** key to exit this mode and the scale will automatically reset.

9. Display A/D inner code and working voltage

9.1 When in normal working mode, press **ON/OFF** and **3** key at the same time till the PIECE WEIGHT window shows "**codE**" to enter this mode. Now WEIGHT window will show "**UoL.x.x**" (Voltage **x.x** V), this means the inner working voltage is x.x V. If the scale uses AC power adaptor, the voltage is the power adaptor voltage after regulating. If the scale is not powered by adaptor, the displayed voltage is the battery voltage. It will display A/D internal code in **COUNT** window.

9.2 Use **1/2** key to view the codes from the remote platform or local platform.

9.3 Use **TARE** key to view "gross" or "net" codes.

9.4 Press **EXIT** key to exit this mode, and the scale will automatically reset.

10. The details about RS232 communication

10.1 Under the normal working mode, press and hold **ON/OFF** and **4** key at the same time until the WEIGHT window shows "**SetuP**". Under this mode, you can set the RS232 baud rate, data format and communication format.

10.2 When PIECE WEIGHT window shows "232.OUT", use **0** or **1** key to enable (=1) or disable (=0) RS232 output. Use **Enter** key to confirmation to go to the next step, or **EXIT** key to exit this mode.

10.3 When the PIECE WEIGHT window shows "**232.bPS**" (bit per second) and the COUNT window shows baud rate xxxxx, Use numerical keys **1、2、3、4、5** to choose baud rate:

1--1200bps
2--2400bps
3--4800bps
4--9600bps
5--19200bps

And use **Enter** key to confirmation to go to the next step, or **EXIT** key to exit this mode.

10.4 When the PIECE WEIGHT window shows "**232.dFt**" (data format), the COUNT window will display data format xxx, Use **1、2、3** key to select data format:

1—8N0 8 bits data, no odd or even , 1 start bit, 1stop bit
2—7O1 7 bits data, 1 even check, 1 start bit, 1stop bit
3—7E1 7 bits data, 1 odd check, 1 start bit, 1stop bit,

And use **Enter** key to confirm the input and go to the next step, or use **EXIT** key to exit this mode.

10.5 When the PIECE WEIGHT window shows "**Urt.cFt**" (communication format), the COUNT window shows communication format xxx. Use the numerical keys **0, 1, 2, 3** to select the communication format:

0---Non-communication
1---When scale becomes stable, it will output the data automatically once, the format is as follows.
2---When scale is stable, the data will be output after pressing **PRINT** key, the format is as follows.
3---When scale becomes stable or **PRINT** key is pressed, the data will be output once. The format is as follows:

<LF>ID: xxxxxx<CR><EXT> ; scale's ID
<LF>Date: YY/MM/DD<CR><EXT> ; Date
<LF>Time: hh:mm<CR><EXT> ; Time
<LF>Gross: xxx.xxx kg (or lb) <CR> <EXT> ; Gross weight
<LF>Tare: xxx.xxx kg (or lb) <CR> <EXT> ; Tare weight
<LF>Net: xxx.xxx kg (or lb) <CR> <EXT> ; Net weight
<LF>Pc.wt.: xxxxxx.xx kg(or lb)<CR><EXT> ; Piece weight
<LF>Count: xxxxxxxx pcs<CR> <EXT> ; Counts

Note：The ID、Date and Time information can only be printed out after setting.

<LF> Line Feed character (hex 0AH)
<CR> Carriage Return character (hex 0DH)
<EXT> End of Text character (hex 03)

10.6 **RS-232** connects between scale and host：

Scale ----------Cable（9 pins）----------**Host** (Computer)

DB9 (Female) ---------- DB9 (Male Connector) ---------- Host connector

PIN2 TXD----------2----------2----------PIN2 RXD

PIN3 RXD----------3----------3----------PIN3 TXD

PIN5 GND----------5----------5----------PIN5 GND

PIN4 DSR----------4----------4----------PIN4 DTR

PIN6 DTR----------6----------6----------PIN6 DSR

PIN7 CTS----------7----------7----------PIN7 RTS

PIN8 RTS----------8----------8----------PIN8 CTS

PIN1 NC----------1----------1----------PIN1 NC

PIN9 NC----------9----------9----------PIN9

Note: The PIN4, PIN6, PIN7 and PIN8 are shorted in scale!

Scale ----------**Printer**

DB9 connector ---------- (printer supplied connector XX)

PIN2 TXD ---------- Printer RXD

PIN3 RXD ---------- Printer TXD

PIN5 GND ---------- Printer GND

11. Date and time setting

11.1 Under the normal working mode, press and hold **5** and **ON/OFF** key for more than 3s to enter into this mode. In this mode, you can set the system date and time. （Note: the date and time in scale will be lost after the scale power off if no Real Time Clock module is installed）

11.2 After entering into this mode, the WEIGHT window will display "**SEtuP**", the PIECE WEIGHT window will display "**dAtE**"(date) and the COUNT window will display the current date xx.xx.xx (format：YY.MM.DD).

11.3 Use the numerical keys to input the date（format：YY.MM.DD），use **Enter** key to confirm and go to the time setting mode.

11.4 Then the weight window displays "**SetuP**"，the PIECE WEIGHT displays "**timE**" (time) and the total price window displays the current time xx.xx.xx.

11.5 Use the numerical keys to input the time（Format：hh.mm.ss），press **Enter** to confirm the input and exit this mode.

12. ID setting

12.1 Under the normal working mode, press and hold **6** and **ON/OFF** key for more than 3s to enter this mode. In this mode, you can set ID code.

12.2 After entering this mode, the WEIGHT window displays "**SEtuP**"， the PIECE WEIGHT window displays "**Id**" and the COUNT window displays Id code(the default Id code is 000000) xxxxxx.

12.3 Use the numerical keys to input ID code，then press **ENTER** key to confirm the input and exit this mode.

13. The second Platform Parameters setting

13.1 Under the normal working mode, press and hold **TARE** and **ON/OFF** key for more than 3s to enter this mode. In this mode, you can set parameters about the second platform.

13.2 The weight window displays "**SETUP**", the PIECE WEIGHT window display "**M.UNIT**" (Main weight Unit) and the COUNT window display "kg/lb".

13.3 Use **UNIT** key to select main unit, use **ENTER** key to confirm or **EXIT** to exit this mode.

13.4 The PIECE WEIGHT window displays "Main.n" (main division number under main weight unit), the COUNT window display the number of division.

13.5 Use numerical keys and **CLEAR** key to input the value of the division number (n=3000-30000), use **ENTER** key to confirm or **EXIT** to exit this mode.

13.6 The PIECE WEIGHT window displays "**Main.d**" (main division value under main weight unit), the COUNT window display the value of division.

13.7 Use numerical keys **0-1** key to input the value of the division (d=0.0001-5), use **ENTER** key to confirm or **EXIT** to exit this mode

13.8 The PIECE WEIGHT window displays "2nd.n" (the division number under the 2nd weight unit), the COUNT window display the number of division (the division number under second unit, the max is 1.25*Main.n).

13.9 Use numerical keys and **CLEAR** key to input the value of the division number, use **ENTER** key to confirm or **EXIT** to exit this mode

13.10. **Pin connection for second scale**

Scale DB9 Male connector:

PIN 1: Excitation +
PIN 2: Signal +
PIN 3: Signal -
PIN 4: Excitation -

14. LCD test mode

14.1 Long press the **ON/OFF+PRINT** key, until all segments of LCD are displayed

14.2 (a) Press **0 key**--- all segments are shown;
(b) Press **1 key** --- different segments will be shown;
(c) Press 2 **key** --- segments on different COMs will be shown;
(d) Press **ENTER key** ---segments will be shown in turn of above a-b-c steps

14.3 Press **EXIT key** --- exit this mode

15. The meaning of the special displayed character

ASCII	LCD/LED Show	ASCII	LCD/LED Show	ASCII	LCD/LED Show
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
		M		Z	

16. Messages & Symbols

16.1	**Err01**	Weight signal is too large
16.2	**Err02**	No proper data can be displayed
16.3	**Err03**	Weight signal is too small
16.4	**Err04**	Zero point is over the setting range
16.5	**Err05**	Zero point is below the setting range
16.6	**Err10**	EEPROM can't be accessed
16.7	**Err11**	Parameters in EEPROM are not same with backup data
16.8	**Err12**	The setting parameters in EEPROM is not in normal range
16.9	**Err20**	There is an error in calibration
16.10	**Err30**	Input signal is over ADC's max. range
16.11	**Err31**	Input signal is below ADC's min. range
16.12	**Err40**	Recall memory data error (data have not been set before recall it)
16.13	**CAP.**	Data about capacity
16.14	**UoL**.	Data about voltage
16.15	**Add**	Data about accumulation
16.16	**PCwt**	Data about piece weight
16.17	**St.PCwt**	Set and store piece weight
16.18	**Addr**.	Memory unit address
16.19	**Unit**:	Weighing unit
16.20	**Rc.PCwt**	Recall the stored piece weight, tare and its unit
16.21	**Lo.PCwt**	Below the Mini Piece Weight limit
16.22	**SPL.PCS**	Data about sample pieces
16.23	**Hi.PCS**	Data about upper limit pieces
16.24	**Lo.PCS**	Data about lower limit pieces
16.25	**Lo.SPwt**	Below Mini sample weight limit
16.26	**UnLoAd**	Unload the loaded weight
16.27	**LoAd**	Load the weights
16.28	**InP.Ld**	Input the load weight
16.29	**CAL.oN**	Calibration enable switch is ON
16.30	**CAL.oFF**	Calibration enable switch is OFF

17. Trouble Shooting

SYMPTOM	PROBABLE CAUSE	REMEDY
Err01	Weight reading exceeds Overload limit, or The weight value cannot be displayed in the current unit of measure	Reduce load on scale until weight value can be displayed. Use a more appropriate unit of measure. Re-set some parameters about units
Err03	Weight reading below Under load limit.	Install platform on scale. Perform zero calibration
Err04	Weight exceeds Power On Zero limit (+10%), or over ZERO key range (+5%)	Make sure scale platform is empty. Perform zero calibration.
Err05	Weight below Power On Zero limit (-10%) or below ZERO key range (-5%).	Install platform on scale. Perform zero calibration.
Err30	Load cell wires to indicator are incorrectly connected, or shorted, or opened; or ADC, load cell are damaged	Make sure wires are ok and correctly connected. Replace load cell or ADC chip, Service required.
Err31		
Err10	EEPROM is damaged	Replace EEPROM IC
Err11	parameters are not set or not correctly set, or setting lost	Re-set parameters, do calibration
Err12		
Err20	Calibration error, maybe input data or loaded weight is too small, too big, unstable, un-linear	Input correct data, load correct weight onto platform, Service required
Err40	UTP memory is not set, or not correctly set, or set data lost	Re-setting these UTPs
Not turn on.	Power cord not plugged in or properly connected. Power outlet not supplying electricity. Battery discharged. Other failure.	Check power cord connections. Make sure power cord is plugged into the power outlet. Check power source. Replace batteries. Service required.
Cannot zero the display or will not zero when turned on.	Load on scale exceeds allowable limits. Load on scale is not stable. Load cell damage.	Remove load on scale. Wait for load to become stable. Service required.
Lo.bAt is shown	Batteries are discharged.	Charge batteries

18. Packing List

No.	CONTENT	QTY
1	Scale	1
2	User manual	1
3	6V4AH lead-acid battery (included)	1
4	Real Time Clock Battery (CR2032) included	1

19. Version History

VERSION	DESCRIPTION	DATE
V1.0	Initial version	2013-05-20

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