Service Manual
Weighing Indicator

KPZ 52-18
KPZ 52-19

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Thank for your purchasing of our Weighing Scale. To guide you to use our product correctly, please read this User Manual carefully to extend the life of machine and to avoid error.

Instructions for Use

1. Please keep scale in a cool and dry place. Do not store under high temperatures.
2. Please keep the scale clean and free from insect infestation.
3. Avoid impacting with other items or overloaded with excessively heavy weights.
   (The load must not exceed the maximum capacity of the scale).
4. If the scale is not going to be used for some time, please clean it and store it in a plastic bag in dry condition. A desiccant sachet may be included to prevent moisture from building up.
5. Any suggestion is warmly welcome.

Preparing to Use the Scale

1. Locate the scale on a firm level surface free from vibrations for accurate weight readings.
   Adjust the four leveling feet to centre the leveling bubble on the scale.
2. Avoid hot sunshine directly on the scale or near the exhaust port of ventilating system.
3. Please use a separate power source plug, to avoid the disturbance of other electric appliance.
4. There should be no weight on the scale when power is turned on.
5. Commodity should be placed at the centre of platter when being weighed, and its size should not exceed the dimension of the platter.
6. We suggest to warm the scale for 15 ~ 20 minutes before using.
7. Please note that when symbol shows up on the display, which means the indicator needs to be recharged. The indicator could only operate for another 6~8 hours. Then “- - -” will show on the display and the indicator must be fully charged before operating again.
8. Introduction of Storage Battery
Due to the storage battery adopt the advanced free-maintaining technique, customers need not to replenish electrolyte.
The scale should be recharged every 3 months to prevent failure of the internal rechargeable battery.
1. The battery should be charged for 8~10 hours.
2. The temperature of battery should below 45℃.

**Maintaining**
1. Please do not discharge with over-current when using the battery. Please charge the battery after discharging current.
2. Please take down the battery when the scale is not used for a long time or break the connection of cathode.
3. Do not short the battery terminals to check whether there is current. Please check whether the connection point is firm to guarantee good connection.
4. The battery should be replaced by specialized person. **No reverse-battery or the product will be damaged.**
   a) Anode of battery should be connected with Anode of product battery (usually red cable)
   b) Cathode of battery should be connected with Cathode of product battery (usually brown cable or black cable)
   c) See the picture following

**Safety warnings**
1. The electrolyte of battery is caustic which causes metal, cotton, etc to corrode.
2. The hydrogen will be resolved when using or charging the battery and it will cause explosion when approaches fire.
Quick Setup Calibration

This page is to quickly initiate the scale, for the other functions configuration, you can refer the chapters below.

Instructions:

Step 1:
- Power off the scale and open the case, find the mini-jumper SWA1 on the main board.
- Switch SWA1 to the ADJ position and then turn the power on. The display will show 01 CSP.

Step 2:
- Refer to the chapter 3-1 at page 20 to complete Specification Setting.

Step 3:
- Refer to the chapter 3-3 at page 33 to complete Linearity Calibration.

Step 4:
- Refer to the chapter 3-2 at page 30 to complete Weight Calibration.

Step 5:
- When done the initiation, switch the jumper SWA1 back to the LOCK position.

If the jumper SWA1 is switched to the LOCK position during calibration, the machine will exit the service mode automatically.
Chapter 1 Introduction

1-1 Features
- The interface is simple and easy to operate
- Up to 1/15,000 display resolution
- High Speed 24bits AD
- AC / DC switching function (Built-in rechargeable battery)
- Low power indication
- LCD display (Weight-6 digits); Full range tare; Auto zero tracking
- Simple counting; Gross/Net indication; Hold function
- Check mode Lo / Hi / OK with 3 selectable beeping sounds
- Lo / Hi / OK indication shows on LED lights
- Selectable unit: Kilogram (kg) and pound (lb)
- Easily viewing single weight / total weight within 1 button press

Option:
- RS232: Bi-direction transmission, easy data reading or printing
- Sleeve connecting stand

1-2 Specifications
- Display LCD 6 digits, Height 25mm, LED Backlight
- Indicator Dimensions: 235 x 163 x 133 mm (W x H x D)

1-3 Display

Icon Introduction
→0← : “Zero” indication
: When the weight is negative, this icon appears.
: “Low battery power” indication
kg : “kg” unit
lb : “lb” unit
斤 : “Taiwan Tael” unit
Pcs : Counting mode
% : Percent indication
HI : The weight is higher than setting value, “HI “LED on
OK : When the weight is between HI limit values and LO limits value, “OK “LED on
LO : The weight is lower than setting value, “LO “LED on
▼ 1 : “STABLE” indication
▼ 2 : “GROSS” indication. When the object is in net mode and press F key, this icon appears
▼ 3 : “M+” indication
▼ 4 : “PT” indication
▼ 5 : Range 2
▼ 6 : Range 1
• 7 : When this LED is on, the indicator is charging.

1-4 Keypad Functions Description

<table>
<thead>
<tr>
<th>key</th>
<th>Function</th>
<th>Hold the key for 1 sec.</th>
<th>Hold the key for 3 sec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Zero key</td>
<td>Check Voltage</td>
<td></td>
</tr>
<tr>
<td>←→</td>
<td>Tare/Pre-tare key</td>
<td>① Backlight setting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>② Zero display setting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>③ Local G value setting</td>
<td></td>
</tr>
<tr>
<td>UNIT</td>
<td>Unit key</td>
<td></td>
<td>Enter password to enter external weight calibration</td>
</tr>
<tr>
<td>F</td>
<td>Function key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⊗</td>
<td>Print / transmit key</td>
<td>RS-232 transmission setting</td>
<td></td>
</tr>
</tbody>
</table>

1-5 Power Supply

Power Selection
6V 4Ah / 4V 4Ah rechargeable battery
110V/220V AC/DC Adaptor

Power Consumption
About DC 37.7 mA (System + Load cell+ LED backlight) about 106 hours

LED charging icon
When “- immobilized -” shown on the display, the indicator must be charged. When the charging icon becomes red, it means the indicator is charging; when the charging icon becomes green, it means the indicator is fully charged.
The indicator needs to be charged for about 8~9 hours when“- immobilized -” shown on the display.

1-6 Error Message

- The EEPROM is not working correctly.
  (The EEPROM is not set yet, or the circuit on PCB is broken.)
- Zero is higher than the zero range when switching the indicator on.
- Zero is lower than the zero range when switching the indicator on.
- A/D value is unstable
- ADIC value is over the maximum range. (2097151 ~ -2097152)
- The weight of the object is over 9 divisions of the maximum capacity.
- The weight of the object is under -1/6 maximum capacity.
Chapter 2 Operating Introduction
2-1 Keypad Operating

Zero key:
If the weighing value is within the range of zero balance, it can be re-zeroed and tare cancelled.

Tare key:
It can be tare except when the weight is negative and the maximum capacity.

Tare Function
1. Place the container onto the scale, until the weight value is stable, press the key for zero return and the NET indication is shown on the display.
2. Place the object into the container and the display shows the net weight value of the object.
3. Remove both object and container, and negative value of the container will show on the display. Press again to clear “tare value”. The scale returns to zero and NET indication goes off.

4. Tare can be continuously done until tare value=maximum capacity
5. Continuous Tare ⇒ Press key for continuous weight increase/decrease on platter.
6. If there is Tare, the pre-tare cannot be done. If there is pre-tare first, and the tare weight is more than pre-tare weight, Tare can be done.
7. No Tare can be done under gross weight display mode.

Pre-Tare Function
When there is nothing on the platter, press key and use keypad to input pre-tare weight. When the cursor flashes on the last digit of display, press key again to complete.
Method of clearing Pre-tare value: the same as the method of clearing tare value.
Pre-tare mode, keypad function as followed:

⇒ upward key ⇒ move cursor leftward
⇒ downward key ⇒ move cursor rightward

Function key:
1. In weighing mode, use this key to shift among simple counting function, check weighing function, accumulation function and hold function.
2. In tare mode, use this key to shift between the “Net value” and the “Gross value”.

Shift between Net value and Gross value
1. In the Tare mode, the “Net” icon shows up. Press key, the screen displays the “gross weight ” and when the "GROSS" icon shows up, “Net” icon goes off. Press key again the screen displays the “net weight ” and when the "Net" icon shows up, the "GROSS” icon goes off.
2. When the screen displays the “gross weight” (the “GROSS” icon shows up), keys except the key, have no response.
UNIT : Unit key
Use UNIT key to select a unit as the display indicated.

The selected unit will be memorized when you turn the indicator off. And the memorized unit will appear after you turn on the indicator next time.

: Print key
In accumulation mode, if the parameter set as $\mathcal{P} \mathcal{P}$ or $\mathcal{P}$ transmission, it transmits the format of simple mode or complete mode.
This key is the combination key, while total counts is shown and weight returns to net zero, press key to clear data and RS-232 transmits the MC printing format.

If there is new weight added on platter, a new data will be added to accumulation data. If this weight is not taken off, nothing can be added to accumulation data. Display will show the total counts for one second, then show net weight for one second, then the display returns to the current weight.

Clear Accumulation data: Press key and the total counts shows on the display. Press key again to clear accumulation data.

Weight must return to net zero if to perform clear function
2-2 Self Test Mode
Press ➔ key and not release. Then power on the indicator, Wait till display shows 01: Adc to enter “Self-Test Mode”.

01: Adc INTERNAL VALUE MODE (must hook up full-bridge Load Cell to test)
1. Press ➔ key to enter, and the display shows internal value
2. Please check the internal value is within normal range (0~400000 no load).
3. Check whether the backlight is on
4. Press ➔ key to back to the last screen, the display shows 01: Adc

02: Key KEYPAD TEST MODE
1. Press ➔ key to enter, display shows Key 01
2. Keypad’s internal code: ➔ key = 01, ➔ key = 31, ➔ key = 20, ➔ key = 30
3. Press ➔ key to back to the last screen, the display shows 02: Key

03: Ver FIRMWARE VERSION DISPLAY MODE
1. Press ➔ key to enter, display shows the firmware version 02023
2. Press ➔ key again, the display shows maintenance number 031 for 2 seconds
3. Press ➔ key to back to the last screen, display shows 03: Ver

00: Esc BACK TO THE LAST SCREEN
Press ➔ key to exit self-test mode, the scale will re-power on automatically
2-3 General Function Operating

Power on the indicator and enter into the setting that you set before or weighing mode. Then press \( \text{F} \) to shift functions.

- **Weighing Mode**
- **Simple Counting Function**
- **Check Weighing Function**
- **Accumulation Function**
- **Hold Function**
2-3-1 Simple Counting Function

1. In weighing mode, press \( F \) key to enter into simple counting function.

2. Press \( \text{+0+} \) key to select sample quantity (10, 20, 50, 100, 200)
   LCD shows as right picture:

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{20} \\
   \text{PCS} \ \text{50} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{200}
   \end{array}
   \]
   
   Press \( \text{+0+} \) key

3. Select sample quantity and then place samples on the platter. After stable, press \( \text{O} \) key and display shows ------. After stable, the scale enters into counting mode and the display shows sample.

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100}
   \end{array}
   \]
   
   Place samples on the platter
   After stable, \( \downarrow 1 \) shows on

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100}
   \end{array}
   \]
   
   Press \( \text{O} \) key

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100}
   \end{array}
   \]
   
   Press \( \text{UNIT} \) key

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100}
   \end{array}
   \]
   
   After 1 second

   \[
   \begin{array}{c}
   \text{PCS} \ \text{10} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100} \\
   \text{PCS} \ \text{100}
   \end{array}
   \]
   
   Display total weight
   Display Unit weight

4. Press \( F \) key to enter into next function.
2-3-2 Check Weighing Function

1. In weighing mode, press **F** key twice to enter into simple counting function.

2. Press **UNIT** key to enter into beeper setting.

   LCD shows as right picture:

   ![Beeper Setting Diagram]

3. Press **+** key to select beep sound.

   - **b1** ⇒ No beep
   - **b2** ⇒ OK (when the weight is between Low limit & High limit), the beeper beeps.
   - **b3** ⇒ When the weight is under or equal to Low limit & over or equal to High limit, the beeper beeps.

4. Press **UNIT** key to enter into Hi limit value setting

5. **+** key ⇒ move cursor to right

   (When the cursor arrive to the last digit, it returns to the first digit.)

   **+** key ⇒ increase/decrease number

   **UNIT** key ⇒ confirm and enter into Lo limit value setting

6. In Lo limit value setting

   **UNIT** key ⇒ confirm and return to Beeper setting

7. In beeper setting, press **口** key to enter into check weighing function. When the weight is more than 10d and it is unstable, check weighing function open.

8. Press **F** key to exit the setting and enter into next function.

   Repeat above steps to set this function again.

   - Units can not be shift in check weighing function. Please enter into weighing mode to shift units.
2-3-3 Accumulation Function

1. In weighing mode, press \( F \) key three times to enter into accumulation function. LCD shows as following picture:

- **Manual accumulation**: After the weight is stable, press \( \) key to accumulate and “M+” icon \( \) shows up. It does the second accumulation, after the weight returns to zero.

- **Automatic accumulation**: After the weight is stable, it accumulates automatically, and “M+” icon \( \) shows up. It does the second accumulation, after the weight returns to zero.

- If it set as \( MPE, MPS \) or \( MPS \) transmission mode, RS-232 outputs printing format while accumulating.

- The Minimum weight of accumulation: \( > \) 10d

2. Press \( \) key to see accumulation counts and accumulation weight.
3. Clear accumulation data:
   When there is no weight on the platter, press \( \text{[key]} \) key to display accumulation counts. Then press \( \text{[key]} \) key again to clear the data. “M+” icon \( \downarrow \) goes off.
   \( \text{[key]} \) If it set as \( \text{[mode]} \) or \( \text{[mode]} \) transmission mode, RS-232 outputs MC printing format after data clear.
   \( \text{[key]} \) Press \( \text{[key]} \) key for 2 seconds and the beeper beeps 3 times. The accumulation data is cleared and RS-232 does not output MC printing format. “M+” icon \( \downarrow \) goes off.

4. Press \( \text{[key]} \) key to exit the setting and enter into next function. The original accumulation data still exist.

2-3-4 Hold Function

1. In weighing mode, press \( \text{[key]} \) key four times to enter into hold function.
2. Use \( \text{[key]} \) key to select \( \text{[mode]} \) , \( \text{[mode]} \) or \( \text{[mode]} \) Then press \( \text{[key]} \) key to enter into Hold function.
   When the weight is fixed, the beeper beeps.
   \( \text{[mode]} \Rightarrow \text{The weight is unlocked only after taking off the weight and the weight returns to zero.} \)
   \( \text{[mode]} \Rightarrow \text{The weight is unlocked, when increase or decrease the weight that is beyond the tolerance d.} \)
   \( \text{[mode]} \Rightarrow \text{Calculate the average weight and fixed the display. To unlock it, press } \text{[key]} \text{key to re-read the weight.} \)

3. Press \( \text{[key]} \) key to exit the setting and enter into next function.
   \( \text{[key]} \) Repeat above steps to set this function again.
2-4 Further Function Operating

2-4-1 General Setting

Zero display setting: 0~9, when the weight is within +/- of the set values, it display as zero.

Local G value conditions: The new Local G values must be within ±10% of the Local G value set in the factory.

If the external weight calibration has been used, the Local G value is disable.

To enable it, please switch the jumper SWA1 to ADJ position first. Then do Weight Calibration Setting (See 3-2-1).

2-4-2 Check Voltage

In weighing mode and the weight returns to zero, Press key for 1 second to check voltage. It returns to weighing mode after 3 second.
2-4-3 External Weight Calibration

In weighing mode and the weight returns to zero, Press \[ \text{UNIT} \] key for 3 second to enter into password display. Press \[ \text{C} \] \[ + \] \[ + \] keys in order and enter into External Weight Calibration. Otherwise it will returns to weighing mode.

Press \[ \text{UNIT} \] key for 3 seconds

The display shows the calibration value and unit. The right digit keeps flashing.

When it becomes stable, the display shows the calibration weight.

Put the weight on the platter and press \[ \text{=} \] key. The scale is managing the data of full capacity. When it becomes stable, the beeper beeps 3 times.

Weight calibration finished and then take off the weight.

Press \[ \text{=} \] key return to the weighing mode.

Weight calibration conditions:
The calibration weight value placed on the platter must be over 100e, and the standard deviation of the weight must be within ±10%.
2-4-4 Transmission Setting

1. In weighing mode, press key for 1 second to enter into transmission setting.

2. Press key to select transmission
   - No transmission
   - Continuous transmission
   - Press key to transmit (Simple mode)
   - Press key to transmit (Complete mode)
   - Stable transmission
     The format is as same as

3. Press key to set baud rate (1200, 2400, 4800, 9600 or 19200.)

4. Press key to save the setting and return to weighing mode

RS-232 Output Format
The output format of and

<table>
<thead>
<tr>
<th>Gross</th>
<th>S</th>
<th>T</th>
<th>G</th>
<th>S</th>
<th>+</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>SP</th>
<th>SP</th>
<th>o</th>
<th>z</th>
<th>CR</th>
<th>LF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net</td>
<td>S</td>
<td>T</td>
<td>N</td>
<td>T</td>
<td>+</td>
<td>.</td>
<td>2</td>
<td>3</td>
<td>.</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>t</td>
<td>l</td>
<td>.</td>
<td>g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plus OL</td>
<td>O</td>
<td>L</td>
<td>G</td>
<td>S</td>
<td>+</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minus OL</td>
<td>O</td>
<td>L</td>
<td>G</td>
<td>S</td>
<td>-</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
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<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unstable</td>
<td>U</td>
<td>S</td>
<td>G</td>
<td>S</td>
<td>+</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>.</td>
<td>5</td>
<td>6</td>
<td>SP</td>
<td>SP</td>
<td>l</td>
<td>b</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Stable transmission: when the weight is more than 10d and the weight is stable, it transmit above format. It transmits next data format only when take off the weight on the platter and put it on again.

- Continuous transmission: It always transmit above format.
  Output rate: 4counts / second
Press \( \textcircled{\textbf{E}} \) key to transmit (simple mode): use in accumulation mode.

Steps:
1. Press \( \textcircled{\textbf{F}} \) key and select \( \textcircled{\textbf{A}} \). \( \textcircled{\textbf{P}} \). \( \textcircled{\textbf{I}} \). Press \( \textcircled{\textbf{E}} \) key to enter into weighing mode.
2. Select \( \textcircled{\textbf{P}} \) \( \textcircled{\textbf{A}} \) and necessary baud rate.
3. Put the objects on the platter. After the weight stable, press \( \textcircled{\textbf{E}} \) key to accumulate the data and print out the order and the net value of the data as following example.
4. Repeat above step to accumulate and print continuously.
5. Press \( \textcircled{\textbf{E}} \) key twice to print TOTAL as following example and clear the data.

<table>
<thead>
<tr>
<th>S/N</th>
<th>WT</th>
<th>Press ( \textcircled{\textbf{E}} ) key</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>2.500</td>
<td>Press ( \textcircled{\textbf{E}} ) key</td>
</tr>
<tr>
<td>0002</td>
<td>2.500</td>
<td>Press ( \textcircled{\textbf{E}} ) key</td>
</tr>
<tr>
<td>0003</td>
<td>2.500</td>
<td>Press ( \textcircled{\textbf{E}} ) key</td>
</tr>
</tbody>
</table>

Press \( \textcircled{\textbf{E}} \) key to transmit (complete mode): use in accumulation mode.

Steps:
1. Press \( \textcircled{\textbf{F}} \) key and select \( \textcircled{\textbf{A}} \). \( \textcircled{\textbf{P}} \). \( \textcircled{\textbf{I}} \). Press \( \textcircled{\textbf{E}} \) key to enter into weighing mode.
2. Select \( \textcircled{\textbf{P}} \) \( \textcircled{\textbf{A}} \) and necessary baud rate.
3. Put the objects on the platter. After the weight stable, press \( \textcircled{\textbf{E}} \) key to accumulate the data and print out the data as following example.

<table>
<thead>
<tr>
<th>TICKET NO.</th>
<th>GS</th>
<th>TR</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>2.500kg</td>
<td>0.000kg</td>
<td>2.500kg</td>
</tr>
</tbody>
</table>

4. Repeat above step to accumulate and record.
5. Press \( \textcircled{\textbf{E}} \) key twice to print TOTAL as following example and clear the data.

<table>
<thead>
<tr>
<th>TOTAL NUMBER OF TICKETS</th>
<th>0003</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL WEIGHT</td>
<td>2.500kg</td>
</tr>
</tbody>
</table>

Stable transmission (the format is as same as \( \textcircled{\textbf{P}} \) \( \textcircled{\textbf{A}} \) in accumulation mode.

Steps:
1. Press \( \textcircled{\textbf{F}} \) key and select \( \textcircled{\textbf{A}} \). \( \textcircled{\textbf{P}} \). \( \textcircled{\textbf{I}} \). Press \( \textcircled{\textbf{E}} \) key to enter into weighing mode.
2. Select \( \textcircled{\textbf{P}} \) \( \textcircled{\textbf{A}} \) and necessary baud rate.
3. Put the objects on the platter. After the weight stable, it automatically accumulates the data and print out the order and the net value of the data as following example.
4. Repeat above step to record and print continuously.
5. Press \( \textcircled{\textbf{E}} \) key twice to print TOTAL as following example and clear the data.
Chapter 3 Service Mode Access

1. Open the case, and then switch the mini-jumper SWA1 on the main board to the ADJ position. Turn the power on. The display shows **01 C5P**.
2. When finished, set the jumper SWA1 back to the LOCK position.
3. If the jumper SWA1 is returned to the LOCK position during calibration, the scale exits the service mode automatically.

The Service Mode Access contains 5 settings as below:

- **01 C5P** → Specification Setting
- **02 CAL** → Weighing Calibration
- **03 CLn** → Linearity Calibration
- **04 CFn** → Function Setting
- **06 CGv** → Local G Value Setting
3-1 Specification Setting

After inputting 00, press key to return to the previous step.

Press key

Input a parameter “00~03”

After inputting 00, press key to return to the previous step.

01 CSP

CSP 00

CSP 00

CSP 00

CSP 00

↑

⇒ Upward key (0~9 digit entry)  
UNIT

⇒ Downward key (0~9 digit entry)  

⇒ Move cursor rightward  
F

⇒ Move cursor leftward

CSP 00 ⇒ Return to the previous step
CSP 01 ⇒ Weight Units Setting
CSP 02 ⇒ Customised Weight Units Setting
CSP 03 ⇒ Multi-segment Setting
3-1-1 Weight Unit Setting

There is no resolution limitation when the weight units “kg, g, lb, lb/oz” are selected.

The weight units “oz, GN, dwt, and ct” are only available on indicators with less 1/10,000 external resolution.

Press key to complete the setting

Refer to Note 1

Press key

Refer to Note 2

Press key

Refer to Note 3

Input parameter “00”

Press key to complete the setting

Example:

Two weight UNITS “kg” & “lb”, with “kg” as the UNITS used for weight calibration.

To set up for max capacity of 15kg with 0.001kg/ division

Enter 015000 ⇒ 15.000 kg

Enter division (= m * 10^{-n}q) and segment setting

1 ⇒ base value (m) = 1

3 ⇒ n = 3, 3 decimal point

2 ⇒ 2 segment range

0 ⇒ multi-intervals

1⇒ multiplication factor (q) = 0,

division = 0.001 kg

The display shows new setting is max capacity of 15kg with 0.001 kg/division for 2 seconds. And back to the upper level.

⇒ Upward key (0~9 digit entry)

⇒ Downward key (0~9 digit entry)

⇒ Move cursor rightward

⇒ Move cursor leftward
**Note 1**
The users can set up the different weight units in various orders according to their preference, and the amount of the chosen weight units can be up to 5

\[
\begin{array}{cccccc}
\text{(a)} & \text{(b)} & \text{(c)} & \text{(d)} & \text{(e)} & \text{(f)} \\
\end{array}
\]

(a) ⇒ The first weight unit (only “kg”, “g”, or “lb” are available to choose from. Please select one of the parameters 0, 1, or 2)
(b) ⇒ The second weight unit (select one of the parameters described below)
(c) ⇒ The third weight unit (select one of the parameters described below)
(d) ⇒ The fourth weight unit (select one of the parameters described below)
(e) ⇒ The fifth weight unit (select one of the parameters described below)
(f) ⇒ The amount of the weight units selected (select one of parameters 1 ~ 2)

The description of the parameters

<table>
<thead>
<tr>
<th>0</th>
<th>kg (Decimal system)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>g (Decimal system)</td>
</tr>
<tr>
<td>2</td>
<td>lb (Decimal system)</td>
</tr>
<tr>
<td>3</td>
<td>Reserved</td>
</tr>
<tr>
<td>4</td>
<td>Reserved</td>
</tr>
<tr>
<td>5</td>
<td>Reserved</td>
</tr>
<tr>
<td>6</td>
<td>Reserved</td>
</tr>
<tr>
<td>7</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

For example:
Choose “kg” & “lb” (two weight units). NOTE the scale is calibrated using “kg” weights and key in 020002

**Note 2** Enter the maximum capacity of the scale, total 6 digits (not including 9d)

\[
\begin{array}{ccccccc}
\text{(g)} & \text{(h)} & \text{(i)} & \text{(j)} & \text{(k)} & \text{(l)} \\
\end{array}
\]

For example:
15.000 kg ⇒ key in 015000
1500.0 g ⇒ key in 015000
6.000 lb ⇒ key in 006000

**Note 3** Set the minimum division and decimal point position to determine the display resolution

\[
\begin{array}{ccccccc}
\text{(m)} & \text{(n)} & \text{(o)} & \text{(p)} & \text{(q)} \\
\end{array}
\]

Division = \( m \times 10^{-n} \), m = base value, n = numbers of decimal point, q = multiplication factor
(m) ⇒ Division base value, select 1, 2, or 5
(n) ⇒ The number of decimal places (0 ~ 5)

For example:
15.000 kg ⇒ enter 3, 1500.0 g ⇒ enter 1, 6.000 lb ⇒ enter 3

(o) ⇒ range setting (select one of parameters 0, 1, 2, or 3)

For example:
0, 1 ⇒ full segment range,
2 ⇒ 2 segment range (divided at 1/2 of the full scale),
3 ⇒ 3 segment range (divided at 1/6 of the full scale & 2/3 of the full scale)

(p) ⇒ 0 : multi-interval 1 : multi-range
**Multi interval:** Multiple segment range and each segment with its own minimum and maximum capacity and scale interval. The selection of the appropriate weighing segment is determined automatically according to the load applied, both on increasing and decreasing loads.

**Multi range:** Similar to Multi-interval, but the scale interval unchanged when unloading until weight return to zero

**2 Segment range:**

![2 Segment range diagram](image)

**3 Segment range:**

![3 Segment range diagram](image)

(q) \(\Rightarrow\) Division multiplication factor: (Only one Weight UNITS Model is available)

- 0 \(\Rightarrow\) no factor
- 1 \(\Rightarrow\) base value X 10

Division Table for various m and q values:

<table>
<thead>
<tr>
<th>m</th>
<th>q = 0</th>
<th>q = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

\(\Rightarrow\) If 2 segment range and multi-interval is set, tare automatically cancels out after weight is cleared.
3-1-2 Customized Capacity Setting C6P 02

Press ➔ key

5

The display shows current setting is max capacity of 6 lb with 0.001 lb/division for 2 seconds.

The display shows the number of weighing UNITS and the UNITS for the weight calibration set previously.

Refer to Note 4

For example:

5 ⇒ 5 weight UNITS
2 ⇒ "lb" is the weight UNITS for calibration

Press ➔ key

Show the code of weight UNITS for weight calibration for 2 seconds

"lb" ⇒ "lb"
"g" ⇒ "g"
"kg" ⇒ "kg"

Refer to Note 5

For example:

012000 ⇒ 12.000 lb

Key in the mass value

012000 ⇒ 12.000 lb

Refer to Note 5

For example:

5 ⇒ division base value = 5
3 ⇒ 3 decimal points ⇒ division = 0.005
2 ⇒ "lb"
0 ⇒ full segment range
1 ⇒ save as the first selected weight unit
0 ⇒ multi-interval

Press ➔ key

The display shows new setting is max capacity of 12 lb with 0.005 lb/division for 2 seconds. And back to the upper level.

Press ➔ key

Cont
Set all weight units according to preference

- Press key
  - The display shows current setting is max capacity of 12 lb with 0.005 lb/division for 2 seconds.

To setup 2\textsuperscript{nd} weight unit for max capacity of 6000g with 1g/division

Enter 006000 \Rightarrow 6000 g

- Enter equivalent mass value
  - For example:
    - 1 \Rightarrow \text{division base value} = 1
    - 0 \Rightarrow 0 \text{ decimal points} \Rightarrow \text{division} = 1
    - 1 \Rightarrow "g"
    - 0 \Rightarrow \text{full segment range}
    - 2 \Rightarrow \text{save as the second selected weight unit}
    - 0 \Rightarrow \text{multi-interval}

The display shows the 2\textsuperscript{nd} weight unit has max capacity of 6000g with 1 g/division for 2 seconds.

- Refer to Note 6 to input parameter
  - Press key

- Refer to Note 5 to input weight value
  - Press key

- After all weight units desired have been set
  - Input 00
  - Press key
  - The display shows current setting is max capacity of 12 lb with 0.005 lb/division for 2 seconds.

- Enter equivalent mass value
  - For example:
    - 1 \Rightarrow \text{division base value} = 1
    - 0 \Rightarrow 0 \text{ decimal points} \Rightarrow \text{division} = 1
    - 1 \Rightarrow "g"
    - 0 \Rightarrow \text{full segment range}
    - 2 \Rightarrow \text{save as the second selected weight unit}
    - 0 \Rightarrow \text{multi-interval}

The display shows the 2\textsuperscript{nd} weight unit has max capacity of 6000g with 1 g/division for 2 seconds.
Note 4

(a) $\Rightarrow$ The number of the weight units (Max: 5, key in 1 ~ 5)
(b) $\Rightarrow$ The weight unit for weight calibration (choose from “kg”, “g”, “lb”, key in 0, 1, or 2)

Parameter description:
0 $\Rightarrow$ kg , 1 $\Rightarrow$ g , 2 $\Rightarrow$ lb

Note 5

(c)(d)(e)(f)(g)(h) (i)(j)(k)(l)(m)(n)

(c) ~ h set the maximum capacity (6 digits)
i ~ n set the mass value for weight calibration (6 digits)
The maximum capacity needs to be presented based on the decimal system, and the first unit must be the calibration unit.

For example:
*How to calculate the maximum capacity and the mass value based on the different types of weight unit.*

A. Choose “kg” as the weight unit for the weight calibration

1. The first weight unit setting: 6.000 kg / 0.002 kg  
   $\Rightarrow$ Enter the maximum capacity 006000 at (c) ~ (h)  
   $\Rightarrow$ Enter the mass value 006000 at (i) ~ (n)

2. Unit “lb” (hexadecimal notation system)
   Calibration weight is 6kg. 0.001 kg = 0.002204623 lb  
   6 kg = 6×2.204623 (lb) = 13.227738 lb. Take 12 lb as the max capacity  
   12.00 lb / 0.08 oz (minimum division=8, decimal point position=2)  
   12 lb $\times$ 16 (oz) = 192.00 oz $\Rightarrow$ Enter the maximum capacity 019200 at (c) ~ (h)  
   13.227738 lb $\times$ 16 (oz) = 211.64 oz $\Rightarrow$ Enter the mass value 021164 at (i) ~ (n)

B. Choose “lb” as the weight unit for the weight calibration

1. The first weight unit setting: 12.000 lb / 0.005 lb (the maximum Capacity / division)  
   $\Rightarrow$ Enter the maximum capacity 012000 at (c) ~ (h)  
   $\Rightarrow$ Enter the mass value 012000 at (i) ~ (n)

2. The second weight unit setting “g”  
   0.002204623 lb = 1 g  
   12 lb = 5443 g. Take 6000 g as the maximum capacity  
   6000 g / 2 g (the maximum Capacity / division),  
   $\Rightarrow$ Enter the maximum capacity 006000 at (c) ~ (h)  
   $\Rightarrow$ Enter the mass value 005443 at (i) ~ (n)
Note 6

(o) ⇒ Minimum division setting
Parameter description:
Decimal system: Input 1, 2, or 5 as the minimum division for the weight value
Hexadecimal system: Input 1, 2, 4, or 8 as the minimum division for the weight value

(p) ⇒ Decimal point position
Parameter description:
Decimal system:
0 ⇒ 0 1 ⇒ 0.0
2 ⇒ 0.00 3 ⇒ 0.000
4 ⇒ 0.0000
Hexadecimal notation system:
0 ⇒ 0.0 1 ⇒ 0.00
2 ⇒ 0.000 3 ⇒ 0.0000

(q) ⇒ Weight unit displayed

<table>
<thead>
<tr>
<th>Parameter</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>kg</td>
<td>g</td>
<td>lb</td>
</tr>
<tr>
<td>Notation system</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>symbol</td>
<td>kg</td>
<td>g</td>
<td>lb</td>
</tr>
</tbody>
</table>

(r) ⇒ Scale change point (Input the parameter 0, 1, 2, or 3)
Parameter: 0 ⇒ full range 1 ⇒ full range 2 ⇒ dual range (changes at 1/2 of full scale)
3 ⇒ triple range (changes at 1/6 of full scale and 2/3 of full scale)

(s) ⇒ Save the weight units at preferred slots (no more than the number of set weight units)
Parameter: 1 ⇒ the first slot (the weight calibration unit) 2 ⇒ the second slot
3 ⇒ the third slot 4 ⇒ the fourth slot 5 ⇒ the fifth slot

(t) ⇒ 0: multi-interval 1: multi-range
Customized Capacity Setting - How to Revise

Press ➕ key

Display shows current setting is max capacity of 12 lb with 0.005 lb/division for 2 seconds.

For example: 5 \Rightarrow 5 \text{ weight UNITS are used}
2 \Rightarrow "lb" as weight calibration unit

Refer to Note 4 to input the parameters or do nothing

Press ➕ key

Display shows weight calibration UNITS for 2 seconds:

- Lb_CAL \Rightarrow "lb" calibration
- G_CAL \Rightarrow "g" calibration
- Kg_CAL \Rightarrow "kg" calibration

For example:
019200 \Rightarrow 192.00 oz

Refer to Note 5 to input parameters

Weight value

Press ➕ key

Please enter weight calibration value in proper UNITS value. For example:
12 lb = 192 oz
019200 \Rightarrow 192.00 oz

For example:
5 \Rightarrow \text{division base value = 5}
2 \Rightarrow 2 \text{ decimal points} \Rightarrow \text{division = 0.05 and display as 0.\_0.05}
4 \Rightarrow "lb-oz"
0 \Rightarrow \text{full segment range}
3 \Rightarrow \text{save into third UNITS slot}
0 \Rightarrow \text{multi-interval}

The display shows the 3<sup>rd</sup> weight unit has max capacity of 12 lb with 0.05 oz/division for 2 seconds, and it returns to last screen

Refer to Note 6 to input parameters

Press ➕ key

Continue to do another weight unit revision, or exit customized capacity.
3-1-3 Multi-range Setting \[CSP \ 03\]

Select the desired unit for setting
All the units which set at \(CSP \ 02\), \(CSP \ 01\) could be selected to set the interval point.
Refer to Note 1 for unit setting.

The display shows the first point setting value
2 segments model \(\Rightarrow\) the point is at 1/2 full scale
3 segments model \(\Rightarrow\) 1st point is at 1/6 full scale
2\(^{\text{nd}}\) point is at 2/3 full scale

Input the desired “first point”
The first point could be set for the 2 or 3 segments model.

The display shows the second point setting value
3 segments model \(\Rightarrow\) 1st point is at 1/6 full scale
2\(^{\text{nd}}\) point is at 2/3 full scale

Input the desired “second point”
The second point only could be set for the 3 segments model.

Follow the steps to input the other points.
When all the points are entered, please input “00” to finish the setting.

Press \(\uparrow\) key to finish the setting

\(\uparrow\) Upward key (0~9 digit entry)
\(\downarrow\) Downward key (0~9 digit entry)
\(\rightarrow\) Move cursor rightward
\(\leftarrow\) Move cursor leftward

By the specification setting of \(CSP \ 02\), \(CSP \ 01\), the default separation points for the 2 segments model is 1/2 full scale, and 1/6 full scale and 2/3 full scale for the 3 segments model. To change the interval point setting, please use the \(CSP \ 03\) function.

When the specification settings of \(CSP \ 02\) and \(CSP \ 01\) have been changed, the separation points would be reset to the default setting.
3-2 Weight Calibration

Input a parameter “00~02”

After inputting “00”, press key return to previous step.

02 CAL

Press key

CAL 00

CAL 00

02 CAL

CAL 00 ⇒ Return to Previous Step
CAL 01 ⇒ Weight Calibration
CAL 02 ⇒ Local G Value Setting
3-2-1 Weight Calibration Setting

Press key to move the cursor to the left.

Press key to abort zero calibration

2 seconds later

When it becomes stable, the display shows the calibration weight.

Press key to finish the setting.

After aborting zero calibration, please put full weight on the platter and wait till the scale stable. Then it will calibrate automatically.
3-2-2 Manufacturing Location G Value Setting

Manufacturer: Taipei

Press ➧ key

Note 1:
Use ➧ key or ➧ key to select the manufacture location.

Manufacturer: Shanghai

Press ➧ key

Input “00”

Press ➧ key to finish setting

The display shows the last setting. And then input the G value of manufacture location.

Press ➧ key

Note 1:
Use ➧ key or ➧ key to select the manufacture location.

Manufacturer: Other

Press ➧ key

Press ➧ key

Press ➧ key

Press ➧ key

Note:
➔ Upward key (0~9 digit entry)
➔ Downward key (0~9 digit entry)
➔ Move cursor rightward
➔ Move cursor leftward
3-3 Linearity Calibration

- After linearity calibration, it is necessary to re-calibrate the weight.
- Weight calibration should be included in linearity calibration.

The last point of linearity calibration with plastic platter or aluminum support.

The first point of linearity calibration with plastic platter or aluminum support.

The zero point with steel platter or plastic platter.

Remove all weight from the pan, press + key enter linearity calibration mode.

Remove the steel weigh pan, and leave the plastic one, ensure the pan is empty. Press + key to record the "first point".

*Weight factor
Refer to note below

Apply the 1st weight for the second point, enter the weight factor, press + key to record "second point".

Apply the 2nd weight, enter the weight factor, press + key to record "third point".

Apply the 3rd weight, enter the weight factor, press + key to record "fourth point".

Add 8th weight, enter weight factor, press + key to record the "ninth point".

+0+ ⇒ Upward key (0~9 digit entry)
+0+ ⇒ Downward key (0~9 digit entry)
⇒ ENTER
⇒ ESC

AD

AD
Weight factor

The weight factor is a single hexadecimal number which represents the value of the next weight compared to the size of the first weight applied to the scale. The weight factor is arranged as follows:

1 = The weights are equal.
2 = The next weight is twice as big as the first weight
3 = 3 times as big as the first weight
4 = 4 times…
5 = 5 times …
6 = 6 times..
7 = 7 times…
8 = 8 times…
9 = 9 times…
A = 10 times…
B = 11 times…
C = 12 times…
D = 13 times…
E = 14 times…
F = 15 times as big as the first weight

Examples: 30kg scale to be linearized with the weight values shown in brackets:

Ex1: 30kg (10kg, 10kg, 10kg)

<table>
<thead>
<tr>
<th>Display</th>
<th>Key Press</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 CLn</td>
<td></td>
<td>Into linearity calibration</td>
</tr>
</tbody>
</table>
| L0      |           | First point (zero), remove weigh pan and press the |[
| L1 1    |           | Put 10kg on and press the |[
| L2 1    |           | Put 10kg on and press the |[
| L3 1    |           | Put 10kg on and press the |[
| L4 1    | F         | To finish linearity adjustment (4 points linearity calibration) |
| 03 CLn  |           | |

Ex2: 30kg (5kg, 10kg, 10kg, 5kg)

<table>
<thead>
<tr>
<th>Display</th>
<th>Key Press</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 CLn</td>
<td></td>
<td>Into linearity calibration</td>
</tr>
</tbody>
</table>
| L0      |           | First point (zero), remove weigh pan and press the |[
| L1 1    |           | Put 5kg on and press the |[
| L2 2    |           | Put 10kg on and press the |[
| L3 2    |           | Put 10kg on and press the |[
| L4 1    |           | Put 5kg on and press the |[
| L5 1    | F         | To finish linearity adjustment (5 points linearity calibration) |
| 03 CLn  |           | |
### Ex3: 30kg (5kg, 5kg, 10kg, 10kg)

<table>
<thead>
<tr>
<th>Display</th>
<th>Key Press</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 CLn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L0</td>
<td>+</td>
<td>First point (zero), remove weigh pan and press the + key</td>
</tr>
<tr>
<td>L1 1</td>
<td>+</td>
<td>Put 5kg on and press the + key</td>
</tr>
<tr>
<td>L2 1</td>
<td>+</td>
<td>Put 5kg on and press the + key</td>
</tr>
<tr>
<td>L3 2</td>
<td>+</td>
<td>Put 10kg on and press the + key</td>
</tr>
<tr>
<td>L4 2</td>
<td>+</td>
<td>Put 10kg on and press the + key</td>
</tr>
<tr>
<td>L5 1</td>
<td>F</td>
<td>To finish linearity adjustment (5 points linearity calibration)</td>
</tr>
</tbody>
</table>

### Ex4: 30kg (1kg, 2kg, 5kg, 10kg, 2kg, 10kg)

<table>
<thead>
<tr>
<th>Display</th>
<th>Key Press</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 CLn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L0</td>
<td>+</td>
<td>First point (zero), remove weigh pan and press the + key</td>
</tr>
<tr>
<td>L1 1</td>
<td>+</td>
<td>Put 1kg on and press the + key</td>
</tr>
<tr>
<td>L2 2</td>
<td>+</td>
<td>Put 2kg on and press the + key</td>
</tr>
<tr>
<td>L3 5</td>
<td>+</td>
<td>Put 5kg on and press the + key</td>
</tr>
<tr>
<td>L4 A</td>
<td>+</td>
<td>Put 10kg on and press the + key</td>
</tr>
<tr>
<td>L5 2</td>
<td>+</td>
<td>Put 2kg on and press the + key</td>
</tr>
<tr>
<td>L6 A</td>
<td>+</td>
<td>Put 10kg on and press the + key</td>
</tr>
<tr>
<td>L7 1</td>
<td>F</td>
<td>To finish linearity calibration (7 points linearity calibration)</td>
</tr>
</tbody>
</table>

#### Notes:

- In the process of L0, L1, L2, L3, L4, L5, L6, L7, or L8, press F key to finish and save the 2, 3, 4, 5, 6, 7, or 8 points calibration.
- In the process of L8, press + key to finish and save the 9 points calibration.
3-4 Function Setting 04 CFn

Press key

Input a parameter 00, 01, 06

Input "00" and press key to return to the previous step

Return to the previous step

Environment parameters setting

Zero Tracing Setting

+0+ Upward key (0~9 digit entry)

UNIT Downward key (0~9 digit entry)

Return Move cursor rightward

F Move cursor leftward
3-4-1 Environment Parameters Setting \( CF_n \ 01 \)

**Return to zero**
The display shows the last setting.

**Return to zero point**
Using \[ \text{UNIT} \] or \[ \text{UNIT} \] to enter

- Default setting = 0
- \( 0 \Rightarrow \text{show all} \)
- \( 1 \Rightarrow \text{within 1 d} \)
- \( 2 \Rightarrow \text{within 2 d} \)
- \( 3 \Rightarrow \text{within 3 d} \)
- \( 4 \Rightarrow \text{within 4 d} \)
- \( 5 \Rightarrow \text{within 5 d} \)
- \( 6 \Rightarrow \text{within 6 d} \)
- \( 7 \Rightarrow \text{within 7 d} \)
- \( 8 \Rightarrow \text{within 8 d} \)
- \( 9 \Rightarrow \text{within 9 d} \)

\( \Rightarrow \) Weight value must over \( \frac{1}{3} \) full scale.

**Stabilization range**
Display shows the last setting.

**Stabilization range**
Use \[ \text{UNIT} \] or \[ \text{UNIT} \] keys input the parameters.
- Default setting = 0
- Parameter 0 ~ 9, the larger the number the more stable the weight.

**Filter setting**
Display shows the last setting.

**Weighing Filter setting**
Use \[ \text{UNIT} \] or \[ \text{UNIT} \] keys input the parameters.
- Default setting = 5
- Range 0 ~ 9, the larger the number, the faster the filter response. Fast response could lead to display weight instability.
- Parameter 9 \( \Rightarrow \) the AD value is not filtered.
- Input AD value = Output AD value

\[ \Rightarrow \] Upward key (0~9 digit entry)
\[ \Rightarrow \] Downward key (0~9 digit entry)
\[ \Rightarrow \] Move cursor rightward
\[ \Rightarrow \] Move cursor leftward

Press \[ \leftrightarrow \] key to finish the setting

04 CFn
3-4-2 Zero Tracking Setting \( CF_n 06 \)

Press \( + \) key

Switch on/off zero tracking
The screen shows last parameter setting

Use \( +0 \) or \( \text{UNIT} \) keys to enter the parameter

Press \( + \) key

Switch on/off zero tracking
Use \( +0 \) or \( \text{UNIT} \) keys to input parameter

Press \( + \) key to finish the setting

04 \( CF_n \)

3-5 Local G Value Setting \( 06 \text{ G}_r \)

The G value should be among the value of Equator and Polar.

Acceleration of gravity at the Equator:
\( G_E = 9.7803184558 \text{ m/sec}^2 \)

Acceleration of gravity at the Poles:
\( G_P = 9.8321772792 \text{ m/sec}^2 \)

Taipei \( \approx 9.78914 \text{ m/sec}^2 \)
Shanghai \( \approx 9.79423 \text{ m/sec}^2 \)

Press \( + \) key

Enter the G value of the customer’s location

Press \( + \) key

06 \( \text{ G}_r \)
# Appendix 1 7-Segment Display Characters

<table>
<thead>
<tr>
<th>Number</th>
<th>Display</th>
<th>Letter</th>
<th>Display</th>
<th>Letter</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>A</td>
<td>1</td>
<td>N</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>B</td>
<td>0</td>
<td>O</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>C</td>
<td>9</td>
<td>P</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>D</td>
<td>9</td>
<td>Q</td>
<td>8</td>
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<tr>
<td>4</td>
<td>4</td>
<td>E</td>
<td>8</td>
<td>R</td>
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<td></td>
<td>M</td>
<td>E</td>
<td>8</td>
<td>Z</td>
<td>8</td>
</tr>
</tbody>
</table>
Appendix 2 Installation

1. Please connect the Load Cell and Indicator as following
   5PIN Connector
   PIN 1  E+
   PIN 2  E-
   PIN 3  S+
   PIN 4  S-
   PIN 5  GND

2. Connecting way of a 9 pin RS-232 connector as following.
   PIN 2 : Data inputting (TXD), position 2 in following picture
   PIN 3 : Data outputting (TXD), position 3 in following picture
   PIN 5 : Internal grounded (GND), position 5 in following picture

Relay Output

1. Principle of operation
   Use check weighing function to set the ranges of High, OK, LOW.
   If the weight is between the ranges of LOW, the data will output in LOW port;
   If the weight is between the ranges of OK, the data will output in OK port;
   If the weight is between the ranges of High, the data will output in High port;

2. Connecting ways and function

<table>
<thead>
<tr>
<th>Terminal Block</th>
<th>Connector’s PIN</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>PIN 1</td>
<td>High Output</td>
</tr>
<tr>
<td>B1</td>
<td>PIN 2</td>
<td>OK Output</td>
</tr>
<tr>
<td>C1</td>
<td>PIN 3</td>
<td>Low Output</td>
</tr>
<tr>
<td>COM</td>
<td>PIN 4</td>
<td>COMMON</td>
</tr>
</tbody>
</table>
KPZ - Váhy, s.r.o.
Libošovice 76,
CZ 507 44 Libošovice

tel.: (+420) 493 571 111 - 113
fax.: (+420) 493 571 100
e-mail: kpz@kpz-vahy.cz