TBW Calibration Manual

1. Press "PCS" key during self-check after turning on the scale. Display will show "Pn". Press "G/N" key, then "UNIT" key, and "TARE" key to enter. The display will show "Po chk". Press "TARE" key until the display shows "p2 mod"
2. Once the display shows "p2 mod", open the display by unscrewing the screws and locate K3 on the mainboard. Upon locating, press the button to enter calibration mode.
3. Press "ZERO" key to confirm and press "TARE" key to select single.
4. Press "ZERO" key to confirm and press "TARE" to select "**cal**". Press Zero key to confirm.
5. Press "ZERO" key to enter calibration and the display will show "unld". At this point, make sure there is no weight present on the scale.
6. When STABLE indicator shows, press "ZERO" key to confirm
7. Display will show the last calibration weight. If you would like to change the calibration weight value, press "G/N" and "(ACC/TTL)/Print" keys to change the active digits and press "TARE" key to increase the value.
8. When the calibration value is correct, press "ZERO" key to confirm. Then, the display will show "**load**". Place the calibration weight on the platform.
9. When the indicator becomes stable, press "ZERO" key to confirm and the scale will return to normal weight mode.

Press this key (K3) on the mainboard in STEP2.

VISIONTECH SHOP

Operation Manual

TBW
Bench Scales

Contents

1. INTRODUCTION

✓ The TBW series platform scales that amplifies signals from a load cell, converts it to digital data and displays it as a mass value.

✓ It is suitable for general weighing or more specialized applications such as check weighing, animal weighing and accumulation applications.

✓ It can connect the indicator to a printer or a PC.

✓ Large LCD with white LED back light displays

2. KEY DESCRIPTIONS

Keys	Description
ON/OFF	Power turn ON/OFF
ZERO	Set the Zero Display
TARE	To perform a tare function, Subtracts weights.
ACC/TTL Print	Accumulator key, current values will store to the memory, To send the data to printer or PC
G/N	Shift to Gross / Net Weight.
SET PCS	Counting
ESC UNIT	To change the unit

2.1 Second fuctions of the keys

Function	Keys
To confirm the selected menu	ZERO
To change the menu and to increase the active digit	TARE
To move the active digit to right	ACC/TTL Print
To move the active digit to left	G/N
To enter the menu	SET PCS
Escape from the menu to normal operation.	ESC UNIT

3. DISPLAY SYMBOLS

Display	Description
STABLE	Indicate when the scale is stable
ZERO	Indicate when the scale in Zero
TARE	Indicate when the scale in Tare
NET	Indicate when the scale in Net mode.
GROSS	Indicate when the scale in Gross mode
kg	Indicate when the scale in Kilogram (kg) unit
pcs	Indicate when the scale in counting
%	Indicate when the scale in percent
▮▬	Indicate when the battery charge is getting low
Hold	Indicate when the scale in Hold mode
Auto	Indicate when the scale in Auto

4. BASIC OPERATION

4.1 Power On/Off:

Switch on the balance by pressing on/ off key.

The display is switched on and the test is started and if want to switch off, press the key again.

4.2 Zero

Environmental conditions can lead to the balance exactly zero despite the platform not taking any strain. However, you can set the display of your balance to zero any time by pressing ZERO key and therefore ensure that the weighing starts at zero.

4.3 Tare

The weight of any container can be tared by pressing TARE button so that with subsequent weighing the net weight of the object being weighed is always displayed.

- Load weight on the platform.

- Press TARE key. Zero is displayed, and tare is subtracted.

- Remove weight on the platform. Tared weight is displayed. Itcan set only one tare value. It will be shown with a minus value.

- Press G/N to change between gross weight and net weight.

- To clear the tare value, remove the load and press TARE key.

Zero is displayed, tare weight is cleared.

4.4 Select Unit and Sampling operation

Press [UNIT] key, it can change unit and sampling operation.

5. CHECK WEIGHING

It can set an upper or lower limit when weighing with limit range.
During the limit controls dividing the unit will indicate whether a value
upper or lower limits with an alarm sound.

5.1. Set Limits

- Press [UNIT] and [PCS] key together, display will be show **set h.**

- Press [TARE] key to select **set h** or **set l**

- Press [ZERO] key to confirm, display will show **00000** and will blink the last digit.

- Enter the high limit value by using [G/N] and [ACC/TTL Print] keys to change the active

  digits and press [TARE] key to increase the value.

- Press [ZERO] key to confirm, display will show **set l**

- Enter the high limit value by using [G/N] and [ACC/TTL Print] keys to change the active

  digits and press [TARE] key to increment the value.

- Press [ZERO] key to confirm.

- To escape from the settings press [UNIT] key.

5.2. Set Check Weighing

- Press [UNIT] and [PCS] key together, display will show **set h.**

- Press [TARE] key to select display **beep.**

- Press [ZERO] key to confirm, display will show **none** or **ok** or **ng**

- **Check mode none**: No beep sound in the limits. Function turned off.
- **Check mode ok:** When the weight is between the limits. OK will be shown and beeper will be sounded.
- **Check mode ng:** When the weight is out of the limits, the beeper will be sounded, and Ok will be shown.

Note: Check weighing available only when weight more than 20d.

6. ACCUMULATION

The scale can be set to accumulate manually by pressing ![ACC/TTL Print] key. For settings, see the parameter **p 1 Com » mode »   pr 2**
Before operation scale should be stable and return to zero, accumulation available only when weight more than 20d

Accumulation Operation
- Place the load on the platform.

- Press ![ACC/TTL Print] key, when displayed STABLE indication.

- Display will be show **acc 1** thenwill be show the total saved value. These displays will be shown only three seconds.
- Remove the weight from the pan.
- When display get zero and stable then place the second weight.
- It can continue until the memory gets fully or 99 items.

6.1. Memory Recall

To recall the memory press ![ACC/TTL Print] key when there is no load on the platform.
Display will show **acc X** (X: Total number of accumulation)thenwill show the total saved value. These displays will only be shown for three seconds.

6.2. Memory Clear

To clear the memory, press ![G/N] and ![ACC/TTL Print] keys together.

Display will be show **Acc 0**, all accumulation memory cleared from the memory.

6.3. Automatically accumulation.
The scale can be set to accumulate automatically. For settings, see the parameter **p 1 Com » mode » auto**

Automatic Accumulation Operation

- Place the load on the platform.
- When display gets STABLE indication, display will show **acc 1,** thenwill be show the total saved value. These displays will be shown only three seconds.
- Remove the weight from the platform.
- When display is zero and stable then place the second weight.
- It can continue until the memory gets full or 99 items.

7. PARTS COUNTING

To enter the parts counting, press key and select until display shows **p 10**

Press to change the parts quantity.

Options: **p10 / p20 / p50 / p100 / p200**

Parts Counting Operation
- Place the load on the platform
- Select the parts quantity as per the option
- Choose from option depending on how many pieces/items are on the scale
- Press key to confirm, display will be shown   ---- then will show the quantity
- Then can add goods on the platform, display will update the parts quantity automatically

Press key go back to the weighing mode.

8. ANIMAL WEIGHING

TBW can use for vibrate loads weigh. This function can use for animal weighing. For settings, see the parameter $P\ 3\ oth$ » Ann

1   Press key during the self checking.

2   Display show PN, in succession press , and to enter.

3   Display will be show   **p 0 chk.**

4   Press key until display show **p 3 oth.**

5   Press key to confirm.

6   Press key to select ON/OFF.

7   Press key to confirm.

8   Press   key twice to back to normal weighing mode and scale will start self-checking.

9   Press & key together to enter animal weighing mode ,the HOLD indicator will be on

10   Bring the load on the platform, display will be show the reading

11   It can add or remove loads also update the weighing values.

12   To complete the current weighing,   remove the weight from the platform.

13　To exit animal mode ,Press & key together again

14　To disable the animal weighing function, set the parameter *P 3 otH » Anm̄ » oFF*

9. KEYBOARD LOCK

It can set lock keyboard, for settings, see the parameter **p 3 oth » lock**

When the keys are not using within 10 minutes, the keys will be lock automatically.
After entering the lock function, when we press the keys display will be show **k-lok.** Then will come to normal display.

If want to unlock and want to use the keys press and hold , and keys three seconds. Display will be show **u lck** Then will come to normal display

10. SET AUTO POWER OFF

It can set auto power of the scale - when scale not in use, scale will turn off after a set time.

- Hold key three seconds display will show **setbl**

- Press key to change **Set of** andpress key to confirm

- Press key to change the options.

Set of	**off**	To set auto off function turn off, for scale always on
	Of 5	Set to turn off five minutes later
	Of 15	Set to turn off fifteen minutes later

- After selecting the auto off option press key to confirm and press key to escape from the settings.

11. SET BACK LIGHT

It can set back light when scale in use.

- Hold key three seconds display will show **setbl**

- Press key to confirm

setbl	**au**	To set auto option. When start to use back light will be on and when stop the operation back light also will off.
	on	To set always on. After turning on the power, back light also will be on.
	off	To set back light turn off. No back light in the operations

- After selecting the backlight option press [ZERO] key to confirm and press [ESC UNIT] key to escape from the settings.

12. SPECIFICATION

| Model	TBW-100	TBW-200	TBW-500
Capacity	100 lb / 50 kg	200 lb / 100 kg	500 lb /250 kg
Resolution	1/5000		
Readability	0.02 lb / 0.01 kg	0.05 lb / 0.02 kg	0.1 lb / 0.05 kg
Housing	ABS plastic		
Weighing units	kg / lb		
Operating Temperature	14°F - 104°F / -10°C - 40°C		
Display	2.05inch / 52mm LCD		
Key Pad	7 Keys		
Power	AC (110V/60Hz)/ Battery (6V/4Ah)		
Calibration	Automatic External		
Interface	RS-232 Output		
Load cell drive Voltage	Max: 5V/150mA		
Load Cells	Up to 4 load cell		
ADC	Sigma Delta		
ADC Update	≤1/10 second		
Stabilization Time	One seconds typical		
Gross Weight	40.3 lb (18.3 kg)		

13. DIMENSIONS (INCH/MM)
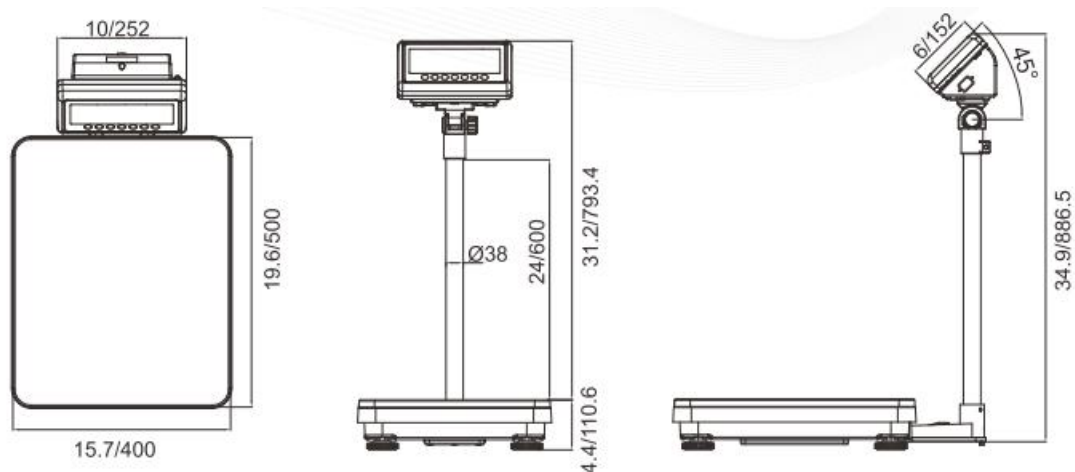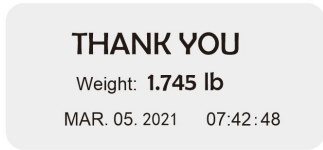
14. ERROR MESSAGE

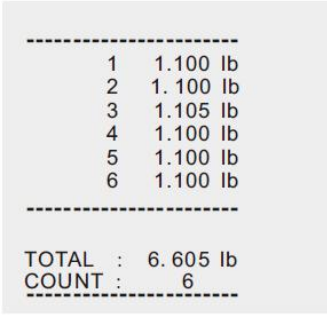| Error Message	Description	Solution
-----	Maximum load exceeded	Unload or reduce weight
Err 1	Incorrect date	Enter the date by using format "yy;mm:dd"
Err 2	Incorrect time	Enter the time by using format "hh:mm:ss"
Err 4	Zero setting error	Zero setting range exceeded due to switching on (4%max) Make sure platform empty.
Err 5	Key board error	Check the keys and connecter.
Err 6	A/D value out of range	Make sure platform empty and check the pan is installed proper. Check the load cell connectors.
Err l	Approval setting error	Check the PCB jumper settings. Must be connect jumper pin to K1 (TBW series)
--ol--	Over range	Remove the load. Re calibrate
--lo--	Underload	Minus weight, check the platform and restart or calibrate.

15. RS232 OUT PUT

The TBW series of scales can be ordered with a standard RS-232 output. It can be connected to DEP-50 receipt printer & DLP-50 label printer.
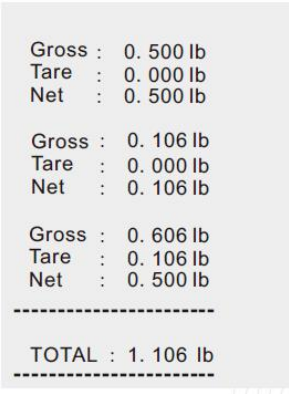
15.1 Print Format

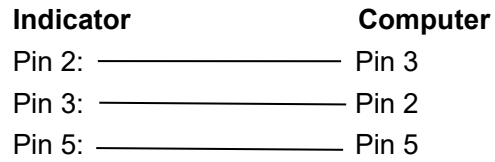Label Format   Receipt Format # 1   Receipt Format # 2

15.2 Diagram: Serial interface, RS-232 (9pin D type connector)

Pin 2	RXD	Input	Receiving data
Pin 3	TXD	Output	Transmission data
Pin 5	GND	—	Signal ground

9pin D Connector:

Indicator	**Computer**
Pin 2: ——————— Pin 3	
Pin 3: ——————— Pin 2	
Pin 5: ——————— Pin 5	