



Technical Manual

TW20_NS20_EW20

Weighing Indicator

A1.12
09/03/2022

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1. PRECAUTIONS

	 WARNING DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, CLEANING, OR SERVICING. FAILURE TO DO SO COULD RESULT IN BODILY HARM OR DAMAGE THE UNIT.
---	--

 CAUTION • Permit only qualified persons to service the instrument • Before connecting or disconnecting any components, remove the power. • Failure to observe these precautions bodily harm or damage to or destruction of the equipment.
--

	SAFTEY INSTRUCTION
	The weighing scale is a precision electronic instrument, handle it carefully.
	The device must only be operated by personnel trained in the operation of this equipment.
	The operating personnel must read and understand the safety instructions in these operating instructions.
	To prevent any accident, only qualified service personnel is authorized to open this device!
	Verify the local voltage and receptacle type are correct for the scale.
	Only use original adaptor, other could cause damage to the scale.
	Pluggable equipment must be installed near an easily accessible socket outlet.
	To prevent load cell ,Avoid load the weight exceed the maximum capacity on the platform
	To prevent the keys, Do not scratch the keypad with a sharp object
	Avoid unstable power sources. Do not use near large users of electricity such as welding equipment or large motors.
	Avoid sudden temperature changes, vibration, wind and water.
	Avoid heavy RF noise.
	Do not install the scale in direct sunlight.

2. PRODUCT DESCRIPTION

2.1 General

The TW20_NS20_EW20 Series weighing indicators series include full-fledged features, interfaces, they can be developed to meet the Industrial applications.

Major Features

- 4.3" color display with graphic interface
- Multi-user permission management
- Weighing units conversion (kg/g/lb/oz/tj/hj/t)
- Membrane keyboard
- Counting by sampling or entering unit weight; percentage weighing; tolerance checking
- Accumulation mode with manual accumulation, auto load accumulation and auto unload accumulation
- Up to 999 PLUs capacity ,6 direct PLUs ,supported to display alphanumeric PLU information
- Reports Management: Daily, weekly, Monthly, Product reports
- Built-in printer for printing receipt or label
- Multiple language selection
- Different methods of communications: RS232 , Ethernet, Wi-Fi, Bluetooth, USB2.0 Host for Scanner interface
- Data management with backup and restore
- Back office management software could update to the indicator with networking
- All options are controlled from menu. No spec list provided and easy to operate

2.2 Over View

TW20



- 1 Keyboard
- 2 Preset keys
- 3 Indicator Holder
- 4 4.3" LCD display
- 5 AC adapter jack
- 6 RS232 port
- 7 RJ45 LAN port
- 8 Load cell connector

NS20



- 1 Keyboard
- 2 Preset keys
- 3 Indicator Holder
- 4 4.3" LCD display

EW20



1. Keyboard
2. Preset keys
3. Indicator Holder
4. 4.3" LCD display
5. AC adapter jack
6. RS232 port
7. RJ45 LAN port
8. Load cell connector

2.3 Interfaces

TW20



1

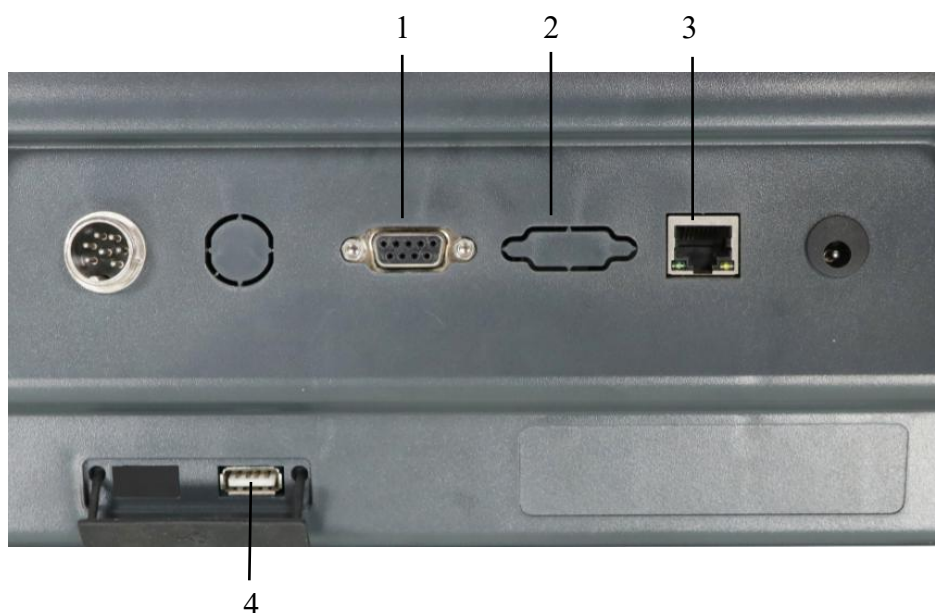
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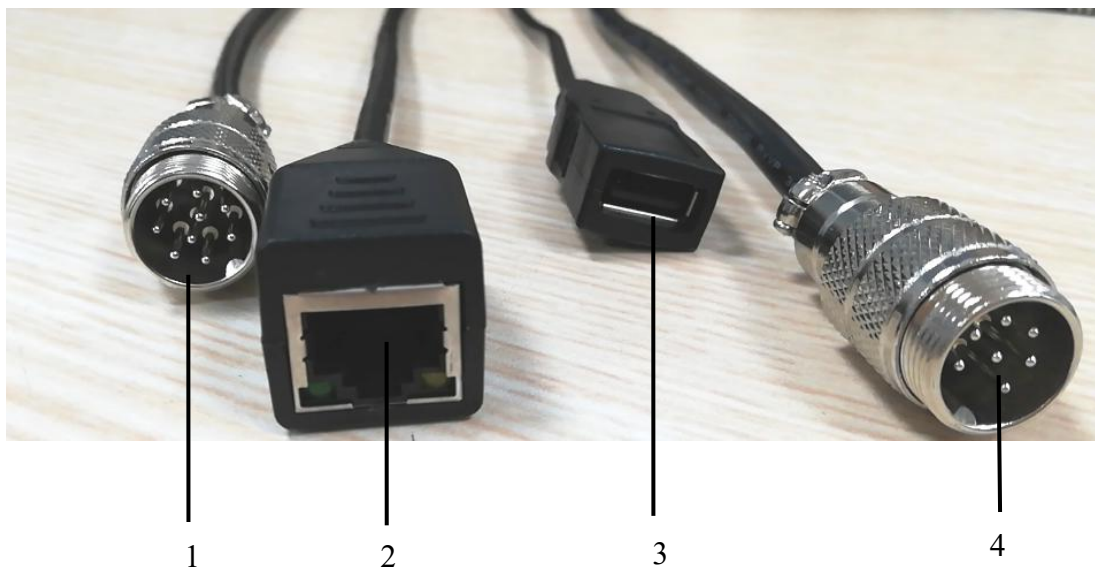
4

No	Interface	Description
1	RS-232	For connecting computer / printer / alarm light/ Remote display
2	RS485 / RS-232 (option)	For connecting computer / Second platform
3	RJ45	Support 10M/100M Ethernet
4	USB2.0	For USB disk/ scanner /data transfer,don't use for charging other device

EW20

No	Interface	Description
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NS20



No	Interface	Description
1	RS-232	For connecting computer / printer /alarm light/ Remote display
2	RJ45	Support 10M/100M Ethernet
3	USB2.0	For USB disk/ scanner /data transfer,don't use for charging other device
4	Load cell connector	For connecting load cell

3. INSTALLATION

3.1 Unpacking

- Remove the scale from the carton.
- Remove the protective covering. Store the packaging and to use if you need to transport the scale later.
- Inspect the scale for damage.
- Make sure all components are included.
 1. Indicator
 2. Adaptor
 3. Manual

3.2 Installation

- Place the Indicator on a table or use indicator holder to connect with stand.
- Connect the platform load cell cable in to the indicator load cell connector. Load cell connector is locating back side of the indicator.

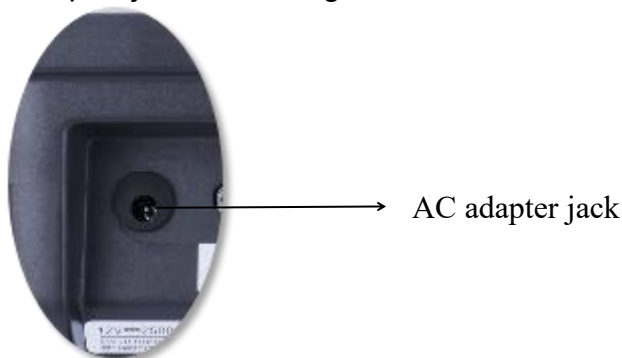
3.3 Load cell connections

- Connect the load cell cables to the terminal as shown below.
- It can connect four 350 ohm load cells.
- The load cell drive voltage is 5V DC $\pm 5\%$ between Excitation + and Excitation -.

7Pin Connection	
Pin 1	Signal -
Pin 2	Signal +
Pin 3	Shield
Pin 4	Exc -
Pin 5	Sen -
Pin 6	Sen +
Pin 7	Exc +

3.4 Power Connection

- Connect the adaptor pin in to the indicator adaptor jack.
- Adaptor jack is locating back side of the indicator.



- Adaptor connects into your AC power socket. Plugable equipment must be installed near an easily accessible socket outlet with a protective ground/ earth contact.

3.5 Rechargeable battery

Note: Please charge the battery before using the scale for the first time.

- The low voltage battery symbol on the weight display indicates that the battery is getting low. It's time to charge the battery with the AC power. If scale goes on being used without proper charging, <BAT-LOW> words will flicker on the display.
- Approximately 30 minutes of instrument usage are left; afterwards it will shut off automatically.
- Please use the supplied battery charger for charging the battery immediately, or scale cannot be used.

3.5.1 Charging the battery

- Before the first use, the battery should be charged by connecting it to the mains power supply for at least 5 hours.
- When the scale is plugged into the mains power the internal battery will be recharged.
- Verify that the AC power socket outlet is properly protected.
- There is an battery symbol at the upper side of display to indicate the status of battery charging.



Fully charged



Low voltage



Charging

3.6 Label Paper Roll Installation (EW20)

1. Press the button.
2. Open the printer cover.
3. Load / unload Paper rolls .
4. Close Cover group, Press both side to close correctly.
5. Pull the paper outside of the printer cover.



1



2



3



4



5

3.7 Receipt Paper Roll Installation (EW20)

1. Press the button.
2. Open the printer cover.
3. Load / unload Paper rolls .
4. Close Cover group, Press both side to close correctly.
5. Pull the paper outside of the printer cover.



1



2



3



4

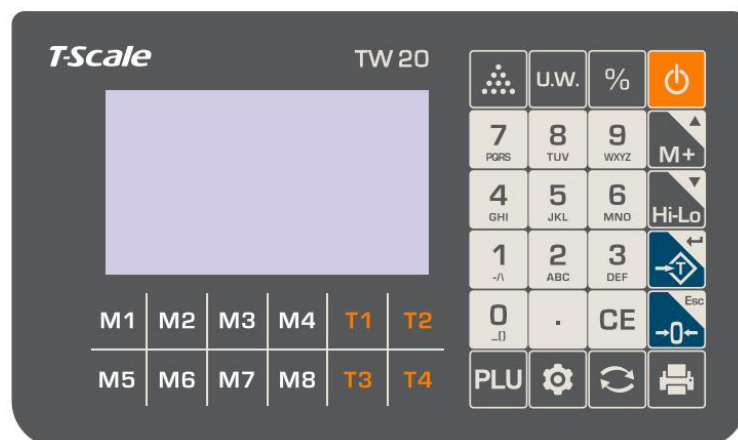


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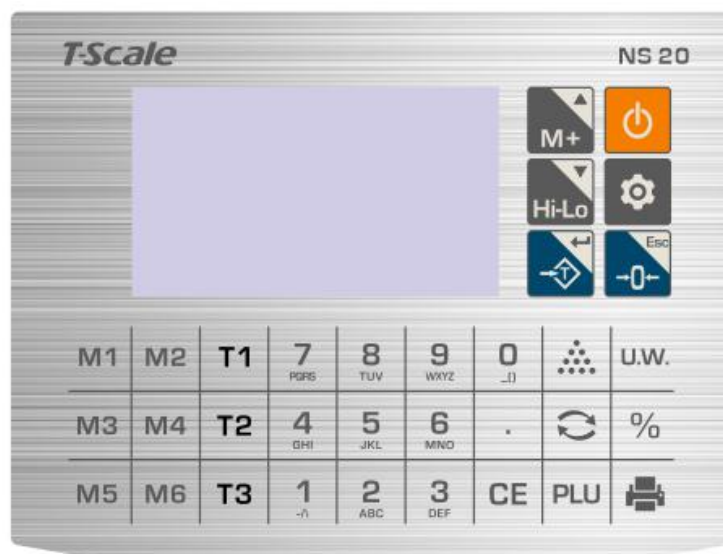
4. DISPLAY&KEYS FUNTION

4.1 Key Board

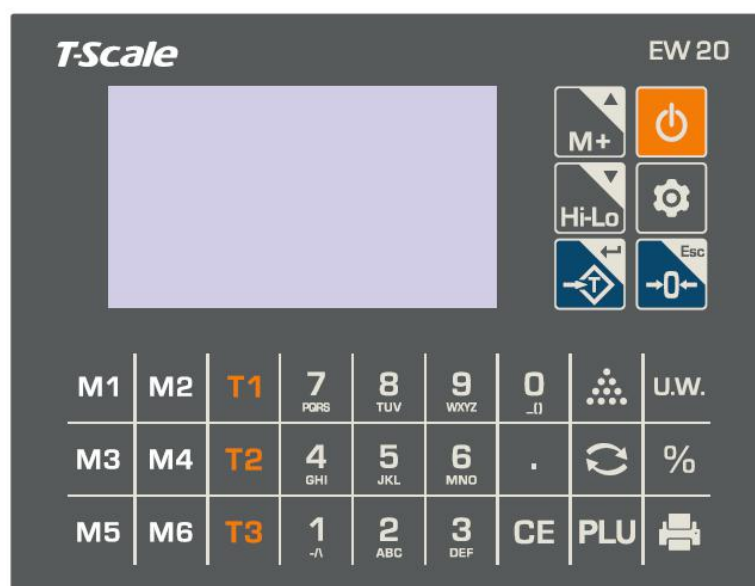
TW20

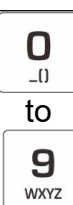


NS20



EW20



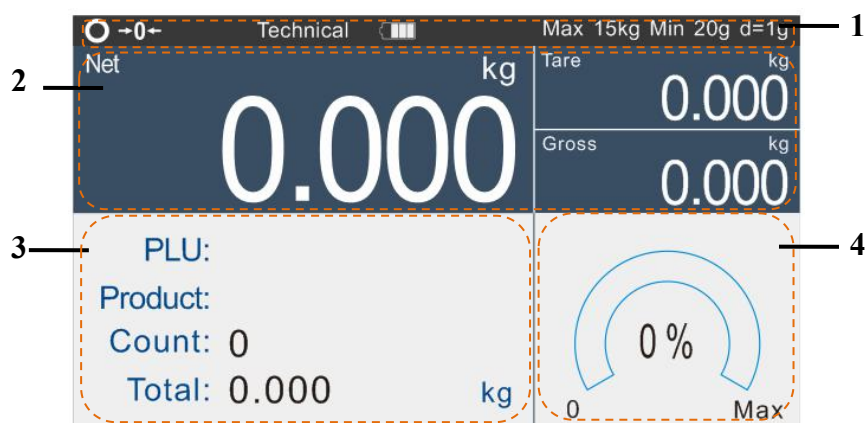
Icon	Name	Description
	On/OFF key	- Press the key to turn the scale on - Long press to turn the scale off
	Print key	- Used to print weighing data in normal weighing mode - Used to print reports when in report mode
	Percentage key	Used to enter percentage mode in normal weighing mode
	Unit Weight key	- Used to store the known average piece weight of item - Long press to change the average piece weight value of item
	Sampling key	Used to enter the counting operation
	Product key	- Used to recall product information - Long press to search product information from list
	Menu key	- Used to enter parameter setting - Long press to check the set parameter information
	Local/Remote key	- Used to change weighing units - Shift to capital letter / small letter when entering characters - Long press to switch local scale to remote scale
	Numeric and alphabetic keys	- Input number in weighing mode - Input numeric and alphabet in parameters and PLU setting
	Decimal point key	Used to input decimal point
	Clear key	- Used to clear selected products and numeric keys - When entering characters, short press to clear one bit, long press to clear all
	Zero key	- Used to zero the scale. - Long press to exit other modes (counting or percentage mode) and back to weighing mode
	Tare key	Used to perform a tare function, Subtracts weights.
	Limit key	- Used to enter check weighing mode - Long press to set HI and Low limits
	Accumulation key	- Used to store the accumulation weights in memory - Used to recall accumulation records
	Direct PLU (M1~M8)	- To recall direct PLU - Long press to store direct PLU

M6	available for TW20)	
T1 to T3	Pre-tare key (T1~T4 available for TW20)	- To recall the pre-tare value - Long press to store pre-tare value

Keys in the parameter settings

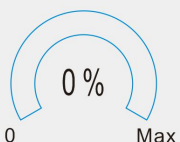
	Used as confirm key ,to enter into the function and parameter settings
	Scroll up to enter different item page
	Scroll down to enter different item page
	Escape from the parameter settings and return to the normal weighing mode

4.2 Indication Description



- 1 Measurement information
- 2 Weight display
- 3 Product Information display
- 4 Check weighing Display Bar

Icon	Name	Description
	Stable indicator	Indicates the scale weight is stable.
	Zero indicator	Indicates the scale is at zero.
	Tare indicator	Indicates the scale is in tare operation
	Battery symbol	Current remaining power
	Battery shortage	Indicates the battery gets low

	Battery charging	Indicates the battery is charging
	Bluetooth indicator*	Indicates Bluetooth connection
	WIFI indicator*	Indicates WIFI connection
	Ethernet indicator	Indicates Ethernet network connection
	Local scale*	Indicates weighing in the local scale
	Remote scale*	Indicates weighing in the remote scale
Technical	User name	Indicates current operator account
Net	Net weight	Indicates scale is displaying the net weight.
Tare	Tare weight	Indicates scale is displaying the tare weight.
Gross	Gross weight	Indicates scale is displaying the gross weight.
	Lack of unit weight	Indicates piece below minimum weight of piece
	Lack of sample	Indicates number of parts placed on balance too small
Animal	Animal indicator	Indicates in animal weighing mode
Peak	Peak hold indicator	Indicates in peak hold weighing mode
PLU	PLU number	Indicates scale is displaying the PLU number.
Product	Product name	Displays product name
Count	Count	Displays accumulated counts
Total	Total	Displays accumulated total weight
	Range Display Bar	Displays the range of capacity

Optional symbol is marked by *

5. OPERATION

5.1 Power On/Off

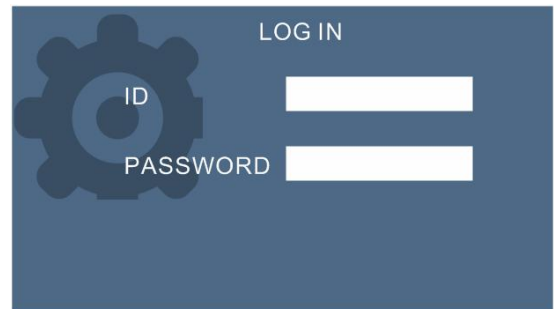
Press  key to switch power-up, it will be heard “beep” sound ,the scale show company logo, and come to normal weighing mode.

Hold  key 1.5 seconds to switch off the scale.

5.2 Log in

It allows multiple users to operate the same indicator

1 When power is on ,it may be asked to input the account and password to log in.



2 Input the account by using numeric keys ,

press  key to confirm.

3 Input the password by using numeric keys ,

press  key to confirm.

4 Display show log in success and come to normal weighing mode.



Note:

1. To enable Login function, see parameters 1.System settings >4. Require login > Yes.
2. Account and password need to be set on the scale in advance, the scale needs to restart after setting up to enter the login .
3. Technician account number is 1000, password is 000000.

5.3 Zero Setting



Zero setting allows to do by pressing  key, only it's possible when the load receptor is not in motion.

5.4 Tare

5.4.1 Semi-automatic tare

The indicator is provided with a semi-automatic subtractive tare.



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

Tare Operation:

- 1 Load weight on the platform.



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

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



- 4 This Tare value can be cleared by pressing  key, when there is no load on the platter. This tare entry cannot take place, if the platter is in motion.

5.4.2 Automatic tare

The weight of any container can be tared automatically, to enable automatic tare function, see parameters 2.ADVANCED SETTINGS >3. TARE SETTINGS > 1.AUTO TARE >ON.

- 1 Load a container on the platform, it will be heard a "beep" sound.
- 2 ZERO indicator and TARE indicator appears.
- 3 Zero is displayed in NET window, the subtracted value appears in the tare window.
- 4 Load the weight in the container, the NET window shows net value with a "beep" sound.
- 5 Remove weight from the platform. Tared weight is displayed. It can set only one tare value.
- 6 Remove the container from the platform, display show zero with a "beep" sound.

5.4.3 Pre-set tare

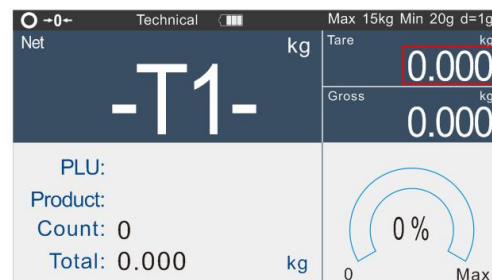
5.4.3.1 Store Pre-set Tare

Direct pre-set tare:

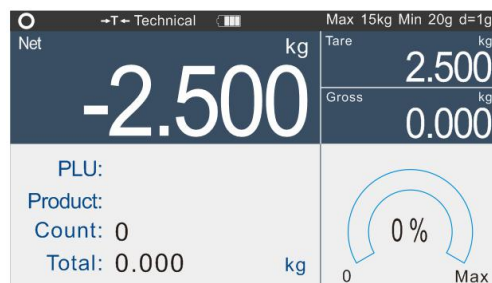
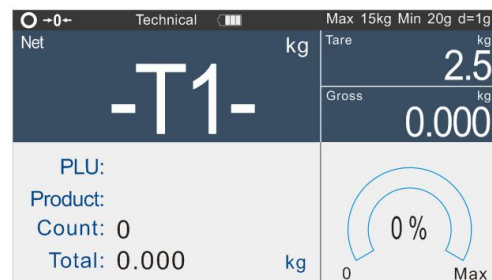
- 1 Hold T key (**T1** to **T3**) 2 seconds in normal Weighing mode,the digits in Tare window will be active.

(T1~T4 available for TW20)

- 2 Using numeric keys to input the tare value.



- 3 Press  key to confirm,the preset tare value appears.



Indirect pre-set tare:

The scale has a pre-set tare function,it can be combined with PLU information,the pre-set tare value can be dedicated to the products in the PLU individually ,using numeric keys see parameters **3.PRODUCT INFO > 2. ADD/EDIT PRODUCT > 3.TARE**

PLU	1	1/2
PRODUCT		
1.NAME		
2.CODE		
3.TARE		0.000 kg
4.TYPE		WEIGH
5.MIN.WEIGHT		0.000 kg
6.MAX.WEIGHT		0.000 kg

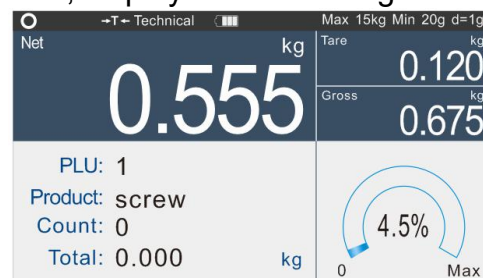
5.4.3.2 Recall Pre-set Tare

Recall indirect pre-tare

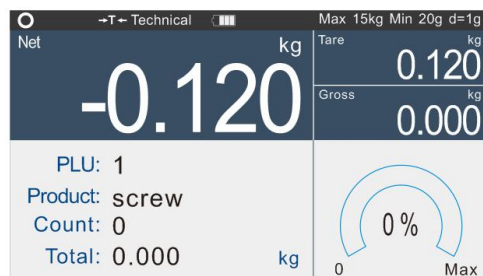
- 1 Select a Weight PLU configured with pre-tare value from Indirect PLU list .
- 2 Display will be show selected product name & number & pre-tare value .



- 3 Place the item on the pan and wait to get weight stable, display show net weight.



- 4 Remove item from the pan ,the net window show negative value.

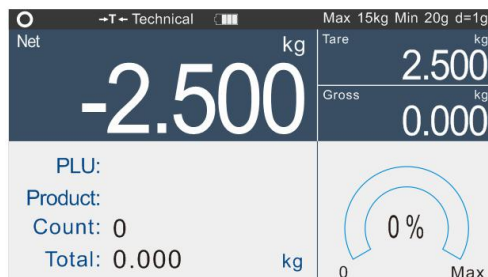


- 5 Press  key to clear tare value.

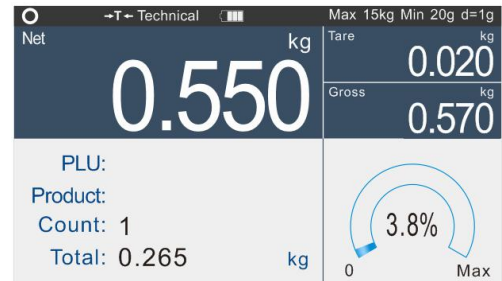


Recall direct pre-tare

- 1 Press T key (selected from **T1** to **T3**) to recall pre-tare value .
- 2 Display shows pre-tare value .

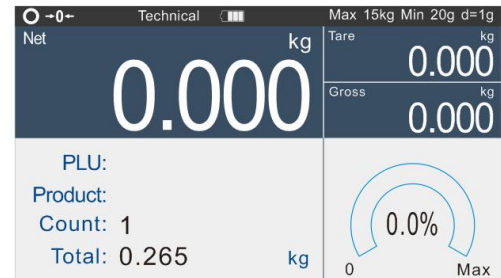


- 3 Place the item on the pan and wait to get weight stable, display show net weight.



- 4 Remove item from the pan, the net window show negative value.

- 5 Press  key to clear tare value.

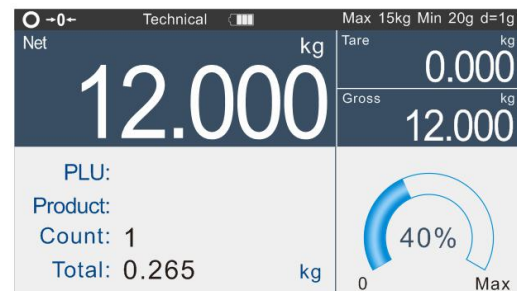


5.5 Weighing Operation

Switch on the scale, display show normal weighing mode.



Load the weight on the pan, display shows weight.



To avoid damaging the load cell, please do not add the weight over the full capacity, otherwise display shows -OL-.



5.6 Weighing Units Conversion

By pressing  key in turn in normal weighing mode, it can convert the weighing units (kg/g/lb/oz/tj/hj), the relative units symbol will turn on in the display.

To enable the weighing units, please see parameter 2.ADVANCED SETTINGS > 1.DISPLAY UNIT

- 1 Press  key to enter setup menu.

- 2 Press  key to select 2.ADVANCED SETTINGS

And confirm by pressing  key.

- 3 Press  key to enter DISPLAY UNIT.

- 4 Press  key to enter the option.

- 5 Press  key to select on/off.

- 6 Press  key 3 times to back to normal weighing mode.

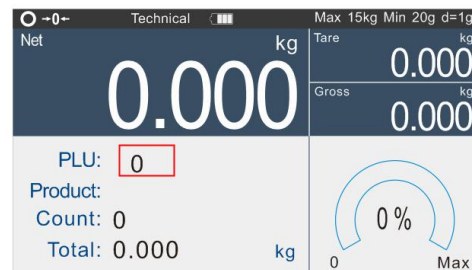
1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

1/2	
ADVANCED SETTINGS	
1.DISPLAY UNIT	
2.ZERO SETTINGS	
3.TARE SETTINGS	
4.WEIGHING MODE	SLOW
5.ANIMAL WEIGH	NORMAL
6.BEEP MODE	BEYOND LIMITS

1/2	
DISPLAY UNIT	
1.g	ON
2.kg	ON
3.lb	ON
4.oz	ON
5.t	OFF
6.tj	OFF

5.7.2 Recall indirect PLU

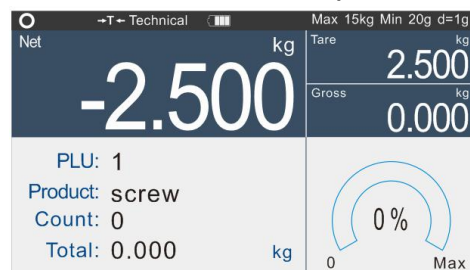
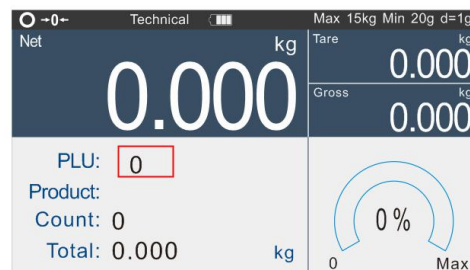
- 1 Press  key to recall the indirect PLU information in normal weighing mode.
- 2 It will be asked to input PLU number
- 3 Using numeric number keys on the keypad to input PLU number to select products.
- 4 Press  key to confirm.
- 5 Display will be show selected product name & number .



Note: By pressing  key allows clearing the current product number & name, or by selecting a new PLU key will be clear existing PLU number & name automatically.

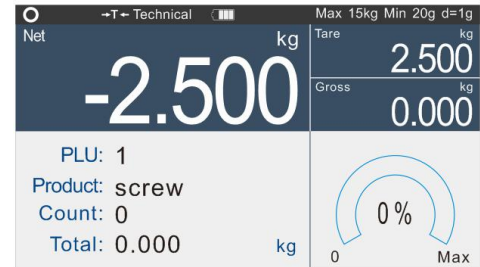
5.7.3 Store Direct PLU information

- 1 Press  key to recall the indirect PLU information in normal weighing mode.
- 2 It will be asked to input PLU number
- 3 Using numeric number keys on the keypad to input PLU number to select products.
- 4 Press  key to confirm.
- 5 Display will be show selected product name & number .
- 6 Hold M keys (selected one of direct PLU from **M1** to **M6**) for storing product information.
- 7 The PLU information will be stored in the direct PLU with a “beep” sound.



5.7.4 Recall direct PLU

In normal weighing mode, press M key (selected from **M1** to **M6**) to recall direct PLU.



5.8 Parts Counting

Weigh a sample to calculate the unit weight to determine the average weight of items to count, put a known number of pieces on the scale. The balance of the total weight divided by the number of samples and displays the unit weight.

Note: Before operation scale should be stable and return to zero, sampling available only when weight more than 20d.

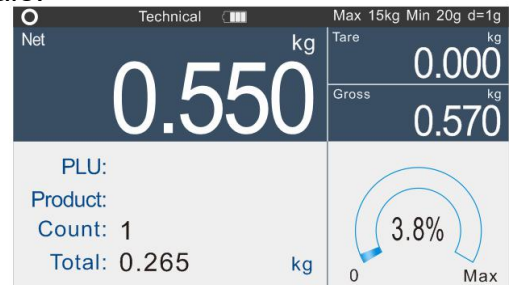
5.8.1 Manual Sampling for counting procedure

5.8.1.1 Simple Sampling

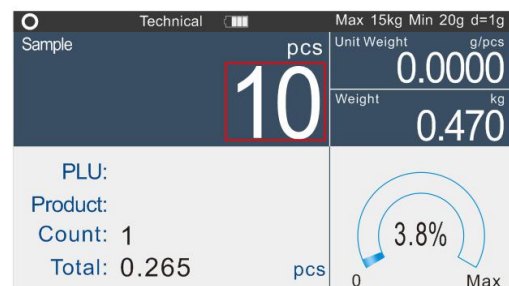
- Make sure platter empty and display return to zero.



- Put a container on platter and press  key if necessary.
- Place a unknown amount of pieces on the scale.

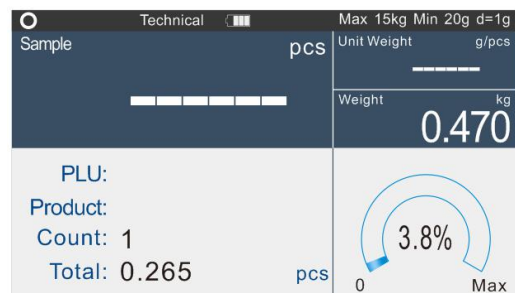


- Press  key to confirm when scale stable.
- The digits in the sample window will be active.

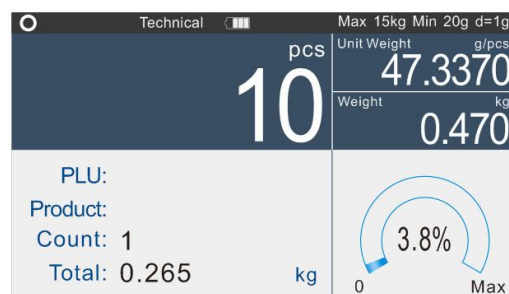


- If necessary press  key to change the parts quantity (10/20/50/100).

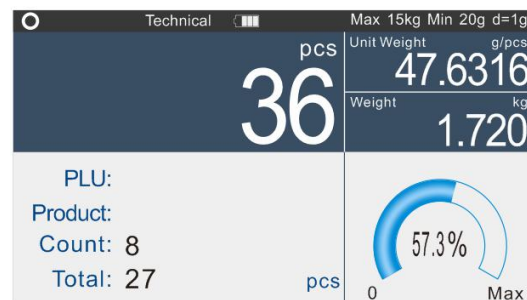
- Press  key to confirm, display show dotted line.



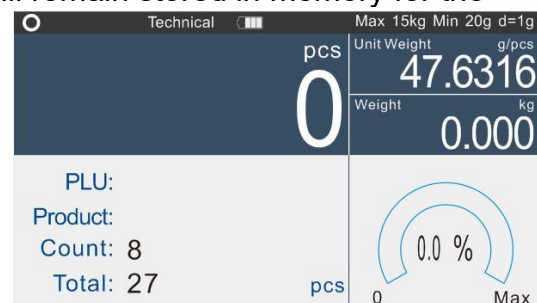
- The average piece weight of item will be calculated and then the number of items displayed in count window.



- Add the rest of items on the platter, weight and number of items will be increased.



- Remove the items, the average piece weight will remain stored in memory for the next counting of similar pieces.



- Press and hold  key to back to normal weighing mode.

5.8.1.2 Enter Counting Number

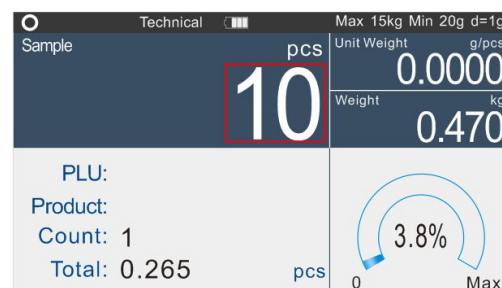
- Make sure platter empty and display return to zero.



- Put a container on platter and press  key if necessary.
- Place a unknown amount of pieces on the scale.

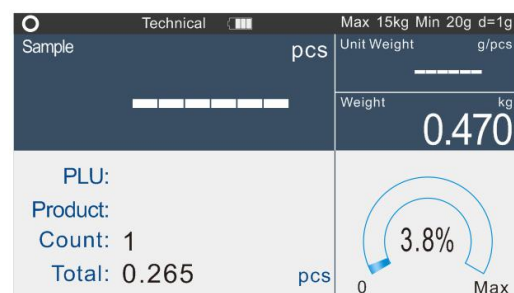


- Press and hold  key to confirm when scale stable.
- The digits in the sample window will be active.

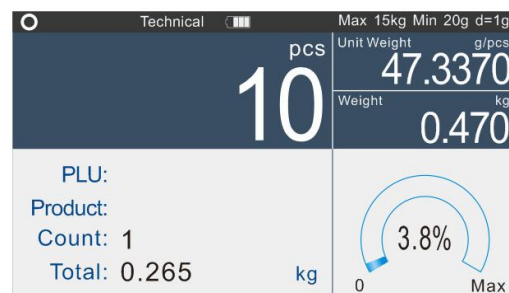


- Using numeric keys to input the count number, eg: 10

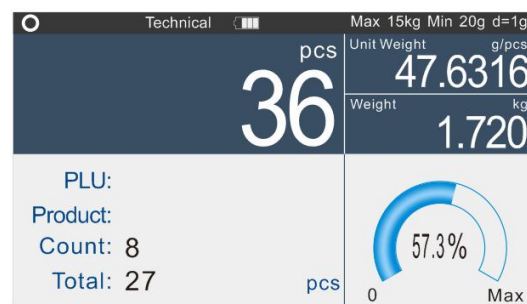
- Press  key to confirm, display show dotted line.



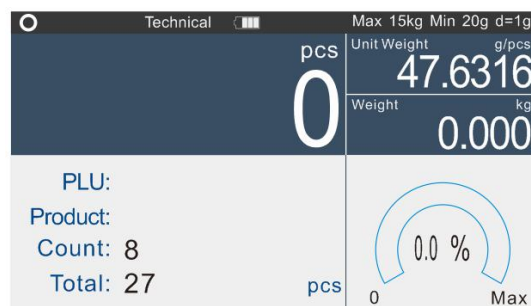
- The average piece weight of item will be calculated and then the number of items displayed in count window.



- Add the rest of items on the platter, weight and number of items will be increased.



- Remove the items, the average piece weight will remain stored in memory for the next counting of similar pieces.



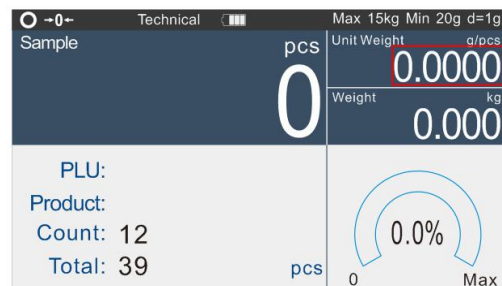
- To execute a new reference operation repeat the operations as described .

- Press and hold  key to back to normal weighing mode.

Note: The weighing may be amended on the basis of greater numbers of samples improves the accuracy of counting large quantities

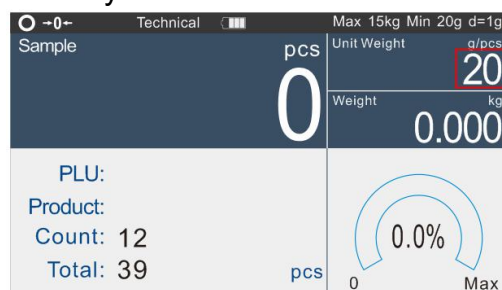
5.8.2 To input the known average piece weight of item

- Make sure platter empty and display return to zero.
- Press  key ,the digits in unit weight window will be active.

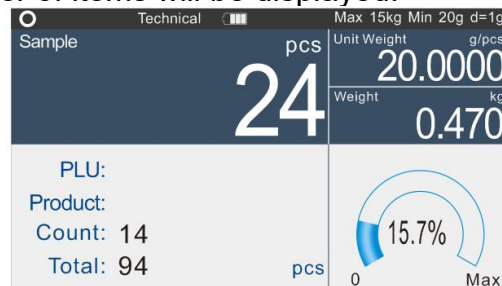


- Input the average piece weight of item with numeric keys.

- Press  key to confirm.



- Add new items on the platter, weight and number of items will be displayed.



- **To execute a new reference operation** repeat the operations as described .

- Press and hold  key to back to normal weighing mode.

- Press  key to display the last set unit weight.

- Press and hold  key to update the average piece weight of item, and confirmed by pressing  key.

5.8.3 Automatic Part Weight Updates

- To optimize the calculated average piece weight automatically, add further parts whose number is smaller than that of the first reference determination.

For each reference optimization the average piece weight is newly calculated.

As the additional pieces increase the base for the calculation, the reference also becomes more exact.

- Automatic reference optimization will be deactivated as soon as the number of added parts exceeds the saved reference quantity.

5.9 Percentage Weighing

The scale can set a sample weight to be shown as 100%. Then any other weights placed on the scale, it will be displayed as a percentage of the original sample.

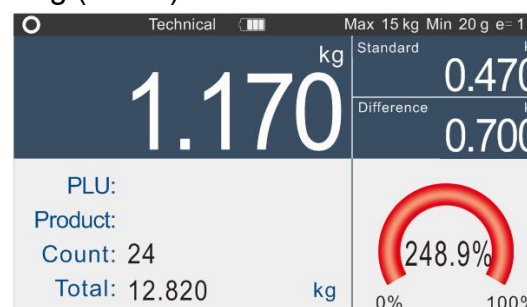
- 0.47 kg weight placed on the scale and followed by pressing the  key is pressed, the display will show 100.00%.



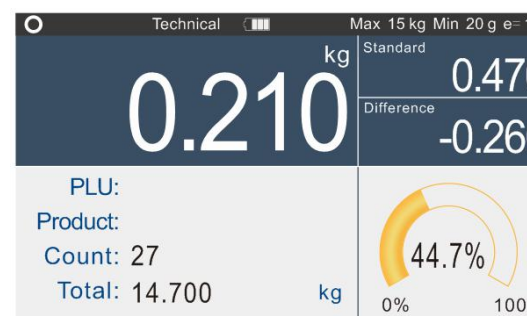
- Remove the weight, and ensure display is zero.



- Place 1.17 kg weight on the platform, display will be 248.9 % as per the percentage of 0.47 kg (100%).



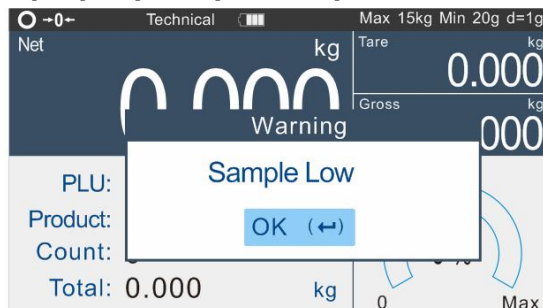
- Place 0.210 kg weight on the platform, display will be 44.7 % as per the percentage of 0.470 kg (100%).





- Press and hold key to back to normal weighing mode.
- The weighing may be amended on the basis of greater numbers of samples, improves the accuracy of percentage large quantities.

Note: If the weight is less than 20d, it will pop up a prompt “sample low”



5.10 Accumulation



The scale can be set to accumulate manually by pressing key. Only the total counts will be saved in memory.

Before operation scale should be stable and return to zero, accumulation available only when weight more than 20d

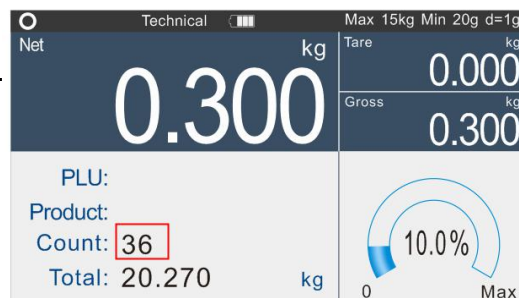
5.10.1 Manual Accumulation

- 1 Place the load on the platform, the weight display will show the net weight.



- 2 Press key, when STABLE indicator on.
- 3 Total counts and weight will be displayed with beep sound .
- 4 Remove the weight from the pan.
- 5 When display get zero and stable then place the second weight.

- 6 Press  key, when STABLE indicator on.



- 7 It can continue until the memory gets fully .

5.10.2 Auto Load Accumulation

To enable the auto-load accumulation ,please refer to parameters 2. ADVANCED SETTINGS >7.ACCUMULATION MODE > AUTO-LOAD

1/2	
ACCUMULATION	
1.TYPE	AUTO-LOAD
2.ALLOW ALL PRODUCTS	NO
3.PRINT EVERY RECORD	YES
4.MIN.LOAD	20D

- 1 Place the load on the platform,the weight display will be show the net weight.
- 2 When stable indicator on ,a "beep" sound will be heard,display shows the count and total weight.
- 3 Remove the item and the scale will return to zero;
- 4 When display get zero and stable then place the second weight.
- 5 It can continue until the memory gets fully .

5.10.3 Auto Unload Accumulation

To enable the auto-unload accumulation ,please refer to parameters 2. ADVANCED SETTINGS >7.ACCUMULATION >1.ACCUMULATION MODE > AUTO-UNLOAD

1/2	
ACCUMULATION	
1.TYPE	AUTO-UNLOAD
2.ALLOW ALL PRODUCTS	NO
3.PRINT EVERY RECORD	YES
4.MIN.LOAD	20D

- 1 Place the load on the platform,the weight display will be show the net weight.
- 2 When stable indicator on ,a "beep" sound will be heard.

- 3 Remove the item and the scale will return to zero.
- 4 Display shows the count and total weight, a beep sound will be heard.
- 5 When display get zero and stable then place the second weight.
- 6 It can continue until the memory gets fully .

5.10.4 Accumulation Recall

- 1 In the normal weighing mode,when the load weight is less than 20d.

- 2 Press  key ,the accumulation records will be show.

11/25/20

1/3

ACC RECORDS

NO.	TIME	PRODUCT	NET
001	22:54	Screw	5.545kg
002	22:54	Screw	5.545kg
003	22:54	Screw	5.545kg
004	22:54	Screw	5.545kg
005	22:54	Screw	5.545kg
006	22:55	Screw	5.545kg
TOTAL		14	70.570kg

- 3 Press  key or  key to scroll up or scroll down to view the records.

- 4 If connected with printer, press  key to print out the accumulation records.

Welcome			
11/25/20		22:54	
OPERATOR		Ada	
No.	Net	Counts	Result
1. Screw	6.130 kg	0.000 kg	NONE
2. Screw	6.410 kg	0.000 kg	HIGH
3. Screw	6.110 kg	0.000 kg	HIGH
4. Screw	6.070 kg	0.000 kg	HIGH
5. Screw	6.060 kg	20 pcs	OK
6. Screw	6.110 kg	20 pcs	OK
7. Screw	6.170 kg	21 pcs	HIGH
8. Screw	1.080 kg	4 pcs	LOW
9. Screw	0.980 kg	3 pcs	LOW
10. Screw	0.960 kg	0.000 kg	NONE
11. Screw	6.090 kg	40.4 %	NONE
12. Screw	6.110 kg	40.5 %	NONE
13. Screw	6.130 kg	40.6 %	NONE
14. Screw	6.160 kg	40.8 %	NONE
Total Items		14	
T.Net		70.570 kg	
T.Counts		68 pcs	
T.Over		4	
T.OK		2	
T.Under		2	

- 5 Press  key to back to normal weighing mode.

5.10.5 Accumulation Clear

- 1 In the normal weighing mode, press  key to recall accumulation records.
- 2 Press and hold  key to clear the accumulation memory.

5.10.6 Accumulation and Printing

If connected with printer, the data will be print out in accumulation mode, see parameters 2. ADVANCED SETTINGS >7.ACCUMULATION >3. PRINT EVERY RECORD >YES

MANUAL	Load the weight ,after stable indicator on,press  key ,the count and total appears ,the data will be printed out
AUTO-LOAD	Load the weight ,after stable indicator on,the count and total appears ,the data will be printed out
AUTO-UNLOAD	Load the weight ,after stable indicator on,the count and total appears ,remove the weight ,data will be printed out

5.10.7 Accumulation and No Printing

If connected with printer, the data will be print out in accumulation mode, see parameters 2. ADVANCED SETTINGS >7.ACCUMULATION >3. PRINT EVERY RECORD >NO

MANUAL	Load the weight ,after stable indicator on,press  key ,the count and total appears ,the data will not be printed out
AUTO-LOAD	Load the weight ,after stable indicator on,the count and total appears ,the data will not be printed out
AUTO-UNLOAD	Load the weight ,after stable indicator on,the count and total appears ,remove the weight ,data will not be printed out

5.10.8 Accumulation for Same Product

see parameters 2. ADVANCED SETTINGS >7.ACCUMULATION >2.ALLOW ALL PRODUCTS > NO

1/2	
ACCUMULATION	
1.TYPE	AUTO-UNLOAD
2.ALLOW ALL PRODUCTS	NO
3.PRINT EVERY RECORD	YES
4.MIN.LOAD	20D

- 1 Select a PLU from the direct PLU list or Indirect PLU list.
- 2 The same product could be accumulated in weighing mode 、 counting mode and percentage mode.
- 3 When switching between products, the total is automatically cleared.
- 4 Press  key to view the records,only show the same product accumulation records in different operation mode.

5.10.9 Accumulation for Different Product

see parameters 2. ADVANCED SETTINGS >7.ACCUMULATION >2.ALLOW ALL PRODUCTS > YES

1/2	
ACCUMULATION	
1.TYPE	AUTO-UNLOAD
2.ALLOW ALL PRODUCTS	YES
3.PRINT EVERY RECORD	YES
4.MIN.LOAD	20D

- 1 Select a PLU from the direct PLU list or Indirect PLU list.
- 2 The different product could be accumulated in weighing mode and percentage mode.
- 3 Press  key to view the records,the different product accumulation records appears.

NOTE:When switching between products with counting modes, there will be warning window to clear the total. The user has to clear the total by pressing long CE from the ACC report.

5.11 Printing

5.11.1 Label Printing

It allows for printing the weighing result to external label printer.To enable the function, please refer to setup menu

2. ADVANCED SETTINGS > 7.ACCUMULATION >1. ACCUMULATION MODE >MANUAL
5.INTERFACE >1.SERIAL >1.TYPE >RS232
5.INTERFACE >1.SERIAL >2.MODE >PRINTER
5.INTERFACE >1.SERIAL >4.EXTERNAL PRINTER > 2. OS2130D or 4. RP80VI
5.INTERFACE >1.SERIAL >6.BAUD RATE > 115200
5.INTERFACE >1.SERIAL >7.DATA BITS > 8
5.INTERFACE >1.SERIAL >8.STOP BITS > 1
5.INTERFACE >1.SERIAL >9.PARITY > NONE

The printer option should be selected as per connected printer model

- Load the weight on the platform.
- Press  key to print out the data.

5.11.2 Receipt Printing

It allows for printing the weighing records to external receipt printer. To enable the function, please refer to setup menu

2.ADVANCED SETTINGS > 7.ACCUMULATION >1. ACCUMULATION MODE >MANUAL

5.INTERFACE >1.SERIAL >1.TYPE >RS232

5.INTERFACE >1.SERIAL >2.MODE >PRINTER

5.INTERFACE >1.SERIAL >4.EXTERNAL PRINTER > TPuP

5.INTERFACE >1.SERIAL >6.BAUD RATE > 115200

5.INTERFACE >1.SERIAL >7.DATA BITS > 8

5.INTERFACE >1.SERIAL >8.STOP BITS > 1

5.INTERFACE >1.SERIAL >9.PARITY > NONE

- Load the weight on the platform.
- Press  key to print out the data.

5.11.3 Built-in printer Printing

It allows for printing the weighing records to built-in printer (only available for EW20 model). To enable the function, please refer to setup menu

2.ADVANCED SETTINGS > 7.ACCUMULATION >1. ACCUMULATION MODE >MANUAL

5.INTERFACE >1.SERIAL >4.BUILT-IN PRINTER > ON

5.INTERFACE >1.SERIAL >6.BAUD RATE > 115200

5.INTERFACE >1.SERIAL >7.DATA BITS > 8

5.INTERFACE >1.SERIAL >8.STOP BITS > 1

5.INTERFACE >1.SERIAL >9.PARITY > NONE

- Load the weight on the platform.
- Press  key to print out the data.

5.12 Tolerance checking

The weighing scales allow weighing goods according to a target quantity or target weight or target percentage within specified tolerances. With this function one can also check if the weighing good is within a defined tolerance range. Reaching target quantity is indicated by an audio sound (if enabled in menu) and a visual color bar.

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

5.12.1 Beep Mode

The beep sound depends on the settings made in menu block

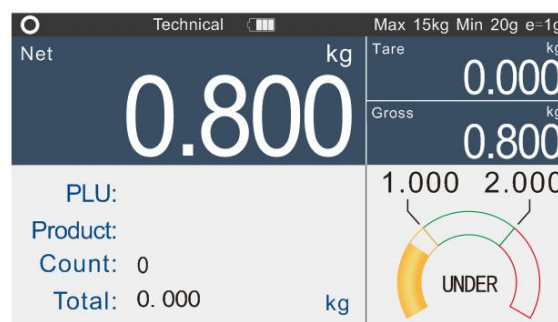
Options:

6.Beep mode	1.OFF	Beep sound turned off
	2.BEYOND LIMITS	Beep sound will ring out when load is beyond tolerance range
	3.WITHIN LIMITS	Beep sound will ring out when load is within tolerance range
	4.BELOW MIN.LIMIT	Beep sound will ring out when load is below low limit
	5.ABOVE MAX.LIMIT	Beep sound will ring out when load is exceed high limit

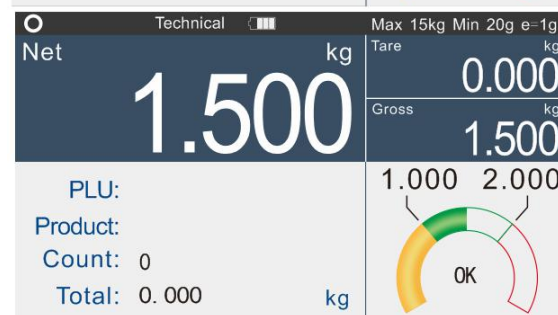
Optical signal:

The curve bar in the display shows whether the goods to be weighed are within the two tolerance limits.

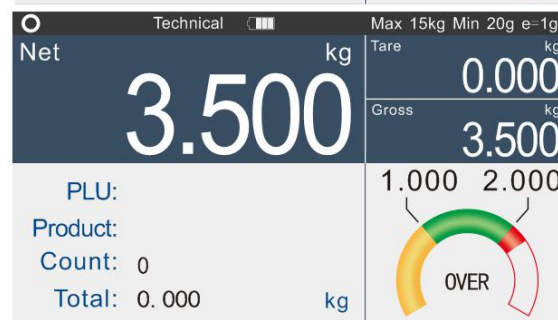
Target quantity/target weight/target percentage below minimum tolerance limit



Target quantity/target weight/target percentage within tolerance range

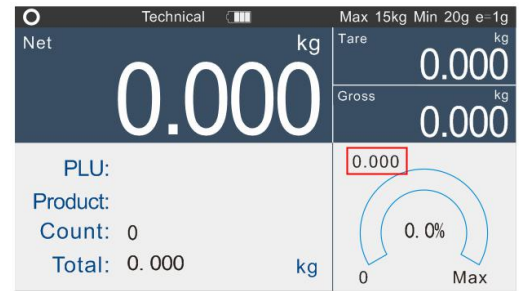


Target quantity/target weight/target percentage exceeds maximum tolerance limit



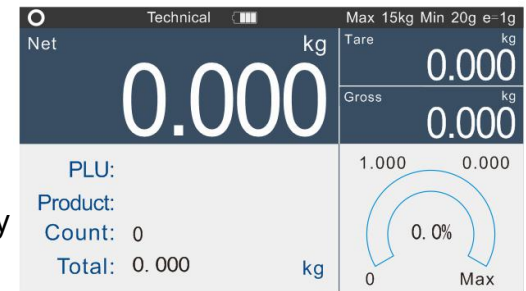
5.12.2 Limits setting for target weight

- 1 Press and hold  key to enter limits setting in Normal weighing mode.



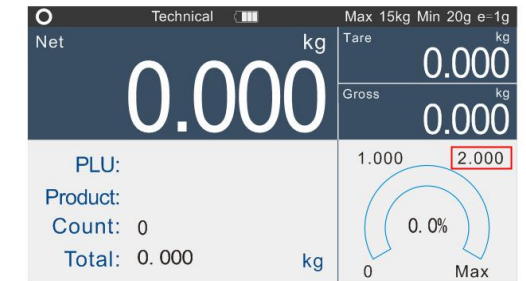
- 2 The lower limit value and LOW words in the display will be active in turn.

- 3 Press  key to confirm when entered the lower limits with numeric keys.



- 4 The upper limit value and HI words in the display will be active.

- 5 Press  key to confirm when entered the upper limits with numeric keys.



- 6 Limits setting completed, Load the weight on platter, the check weighing control will start.



- 7 To disable the check weighing function, enter zero in both limits.

5.12.3 Limits setting for target quantity

- 1 To enter counting mode by sampling or inputting the known unit weight of item.

- 2 Press and hold  key to enter limits setting.



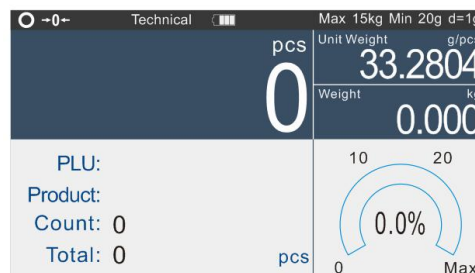
- 3 The lower limit value and LOW words in the display will be active in turn.

- 4 Press  key to confirm when entered the lower limits with numeric keys.

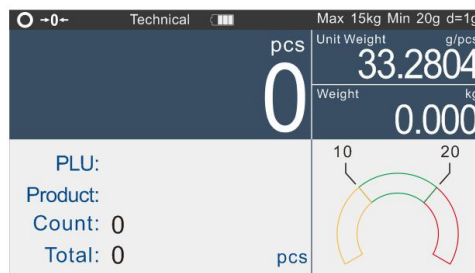


- 5 The upper limit value and HI words in the display will be active in turn.

- 6 Press  key to confirm when entered the upper limits with numeric keys.



- 7 Limits setting completed, Load the weight on platter, the check counting control will start.

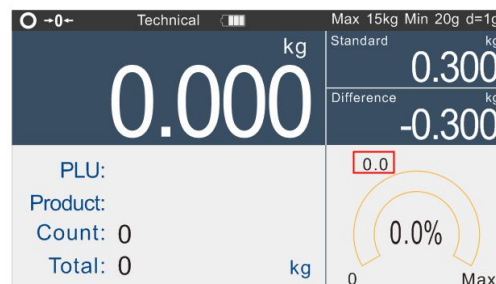


- 8 To disable the check counting function, enter zero in both limits.

5.12.4 Limits setting for target percentage

1 Press  key to enter percentage weighing in normal weighing mode.

2 Press  key to enter limits setting.

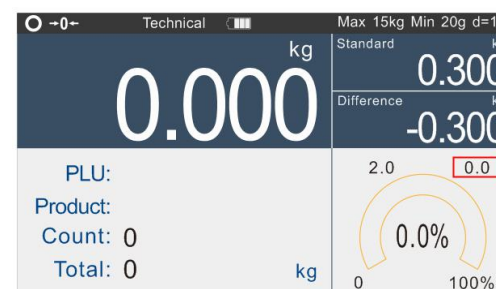


3 The lower limit value and LOW words in the display will be active in turn.

4 Press  key to confirm when entered the lower limits with numeric keys.

5 The upper limit value and HI words in the display will be active in turn.

6 Press  key to confirm when entered the upper limits with numeric keys.



7 Limits setting completed, Load the weight on platter, the check percentage weighing control will start.



8 To disable the check percentage weighing function, enter zero in both limits.



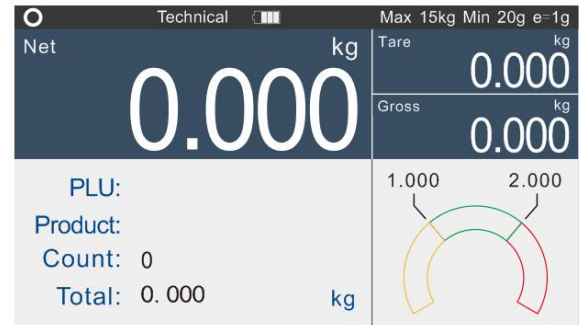
Notes

- Check weighing available only when weight more than 20d
- The function is not valid when one enters a lower limit greater than the upper limit.
- When lower limits are the same with upper limits, display only shows one set value

5.12.5 Tolerance Checking Mode

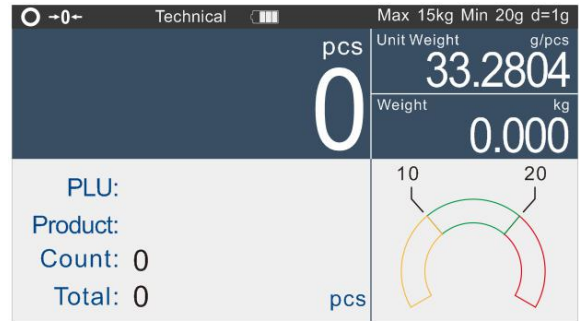
Target weight checking

In normal weighing mode, press  key to enter check weighing mode



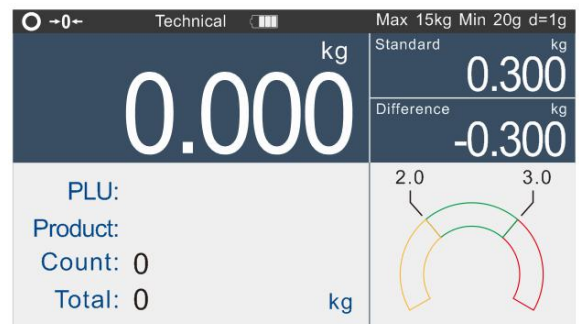
Target quantity checking

In counting mode, press  key to enter check counting mode



Target percentage checking

In percentage mode, press  key to enter check percentage mode



5.13 Backlight Setting

It allows for setting backlight for the scale, To enable the function, please refer to setup menu.

Operation:

1 Press  key to enter setup menu.

2 Press  key to enter to system settings.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 3 Press  key until to select the backlight.

- 4 Press  key to enter the menu.

- 5 Press  key to change the setting.

- LOW--Backlight turn to be low light
- NORMAL--Backlight turn to be medium light
- BRIGHT--Backlight turn to be high light

- 6 Press  key to confirm.

- 7 Press  key two times to exit the setup menu and back to normal weighing mode.

1/2	
SYSTEM SETTINGS	
1.TERMINAL INFO	
2.DATE/TIME	
3.LANGUAGE	ENGLISH
4.REQUIRE LOGIN	NO
5.BACKLIGHT	NORMAL
6.POWER&SLEEP	OFF

Note:If the battery is getting low,the backlight function will not be available.

5.14 Auto Power Off

When the auto power-off time is enabled, the scale will automatically turn off when there has been no load on the platform and the scale is stable at zero position for a specified period of time in minutes.

Operation:

- 1 Press  key to enter setup menu.

- 2 Press  key to enter to system settings.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 3 Press  key until to select the power&sleep.

- 4 Press  key to enter the menu.

- 5 Press  key to change the setting.

- OFF--Auto power-off is off.
- 0.5 HOUR--Auto power-off at 30 minutes.
- 5 HOURS--Auto power-off at 5 hours.
- 10 HOURS--Auto power-off at 10 hours.

- 6 Press  key to confirm.

- 7 Press  key two times to exit the setup menu and back to normal weighing mode.

1/2	
SYSTEM SETTINGS	
1.TERMINAL INFO	
2.DATE/TIME	
3.LANGUAGE	ENGLISH
4.LOGIN	NO
5.BACKLIGHT	NORMAL
6.AUTO POWER OFF	OFF

5.15 Animal Weighing

Use this mode to weigh moving items.

Operation:

- 1 Press  key to enter setup menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key to select ADVANCED SETTINGS.

- 3 Press  key to enter settings.

1/2	
ADVANCED SETTINGS	
1.DISPLAY UNIT	
2.ZERO SETTINGS	
3.TARE SETTINGS	
4.WEIGHING MODE	ANIMAL WEIGH
5.ANIMAL WEIGH	NORMAL
6.BEEP MODE	BEYOND LIMITS

- 4 Press  key until select 4. WEIGHING MODE sub menu.

- 5 Press  key to enter settings.

- 6 Press  key to change the settings until display show ANIMAL WEIGH.

- 7 Once selected the animal weighing mode,it could enter 5. ANIMAL WEIGH sub menu to set the relative range settings for animal weighing.

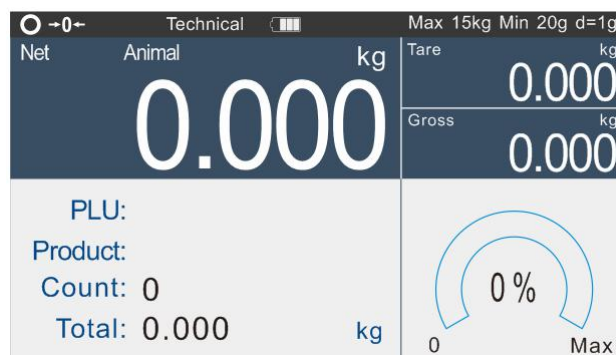
1/1	
ANIMAL WEIGH	
1.FLOATING RANGE	1D
2.STABLE TIME	5 SEC
3.JUMP RANGE	1D

- FLOATING RANGE:1D/2D/5D/10D/20D/50D
- STABLE TIME: 5 SEC/10 SEC/ 20 SEC/ 30 SEC/ 40 SEC/50 SEC
- JUMP RANGE:1D/2D/5D/10D/20D/50D

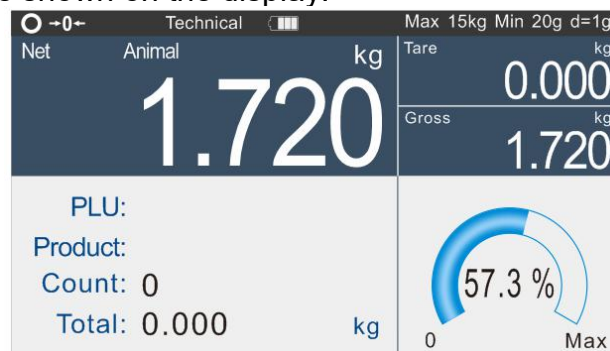
- 8 Press  key to confirm you desired.

- 9 Press  key three times to exit the setup menu and enter animal weighing mode.

- 10 The Animal indicator will appear in the upper side of the weight display.



- 11 Place item to be weighed on the scale platform. Once the stable indicator appears with a beep sound, the final weight will be shown on the display.



The weight will be update when the load weight exceed the floating range and jump range.

To disable the animal weighing function, it's required to enter set up menu to change 4.WEIGHING MODE to NORMAL setting .

5.16 Peak Hold

Operation:

- 1 Press  key to enter setup menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key to select ADVANCED SETTINGS.

- 3 Press  key to enter settings.

- 4 Press  key until select 4. WEIGHING MODE sub menu.

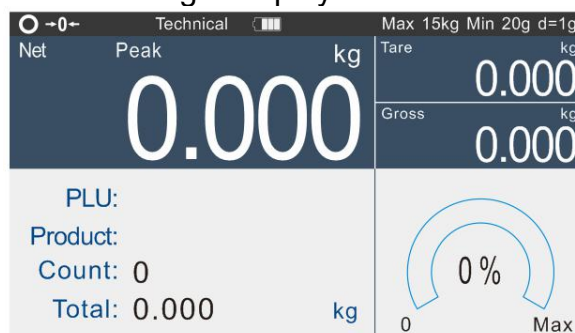
- 5 Press  key to enter settings.

- 6 Press  key to change the settings until display show PEAK HOLD.

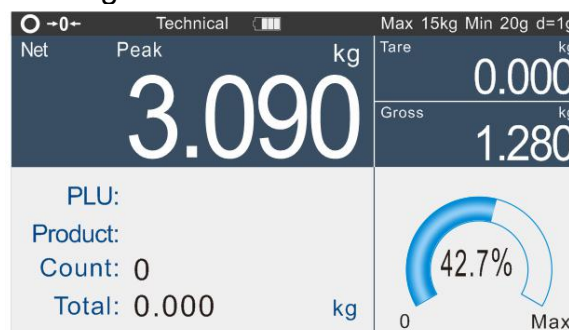
- 7 Press  key to confirm.

1/2	
ADVANCED SETTINGS	
1.DISPLAY UNIT	
2.ZERO SETTINGS	
3.TARE SETTINGS	
4.WEIGHING MODE	PEAK HOLD
5.ANIMAL WEIGH	
6.BEEP MODE	BEYOND LIMITS

- 8 Press  key two times to exit the setup menu and back to peak hold weighing mode.
- 9 The Peak indicator will appear in the upper side of the weight display.



- 10 Load the weight on the platform, the maximum reading will be hold.



6. DATABASE PROGRAMMING

6.1 Search Product

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press numeric key  to enter product settings.

1/1	
PRODUCT INFO	
1.SEARCH	
2.ADD/EDIT PRODUCT	
3.DELETE PRODUCT	
4.CHANGE PLU NUMBER	

- 3 Press  key to confirm .
4 The product list will be displayed.

PRODUCT LIST		1/1
NO.	PLU	NAME
1	001	PRODUCT 1
2	002	PRODUCT 2
3	003	PRODUCT 3
4	004	PRODUCT 4

- 5 Using numeric keys to input number,for example: 1 .

- 6 Press  key to confirm,PLU1 information will be displayed.

PLU	1	1/2
PRODUCT		
1. NAME	PRODUCT1	
2. CODE	12569	
3. TARE	0.005 kg	
4. TYPE	WEIGH	
5. MIN.WEIGHT	0.000 kg	
6. MAX.WEIGHT	0.000 kg	

- 7 Press  key to scroll up the product information page.

6.2 Edit Product

Apollo series can store up to 999 PLU, including 6 direct PLU for NS20 &EW20 model,8 direct PLU for TW20 model.

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press numeric key  to enter product settings.

- 3 Press  key to select 2.ADD/EDIT PRODUCT

1/1	
PRODUCT INFO	
1.SEARCH	
2.ADD/EDIT PRODUCT	
3.DELETE PRODUCT	
4.CHANGE PLU NUMBER	

- 4 Press  key to confirm, it will be asked to input PLU number.

1/1	
PLU NUMBER	1

- 5 Press  key to confirm, the detail product information will be displayed.

PLU	1	1/2
PRODUCT		
1.NAME		
2.CODE		
3.TARE		0.000 kg
4.TYPE		WEIGH
5.MIN.WEIGHT		0.000 kg
6.MAX.WEIGHT		0.000 kg

Edit Keys			
1		Arrow keys	For up & down, enter to different item page
2		Delete Key	For clear entered value
3		Return Key	For returning to main page
4		Save Key	For saving information
5	Numeric key 0~9	Item select key Alphabet key	For entering corresponding item page For entering alphabet for product name

Product Item Description

N	Item	Description
1	NAME	Enter name of the PLU. 10 alphanumeric characters
2	CODE	Enter code of the PLU. 20 numeric characters
3	TARE	Enter pre-tare value of the PLU. 6 numeric characters
4	TYPE	Select measuring type,1.WEIGH ; 2.PIECES ; 3.PERCENT
❖ If select WEIGHT type ,it's required to set HI limit and LOW limit		
5	MIN.WEIGHT	Press  key to select the sub-menu,press  key to enter setting, the digits will be active,using numeric keys to input the value, press  key to confirm.
6	MAX.WEIGHT	
❖ If select PIECES type ,it's required to set HI limit and LOW limit and unit weight		
5	MIN. PCS	Press  key to select the sub-menu, press  key to enter setting, the digits will be active,using numeric keys to input the value, press  key to confirm.
6	MAX. PCS	
7	UNIT WEIGHT	
❖ If select PIECES type ,it's required to set HI limit and LOW limit and standard weight		
5	MIN. PERCENT	Press  key to select the sub-menu, press  key to enter setting, the digits will be active,using numeric keys to input the value, press  key to confirm.
6	MAX. PERCENT	
7	STD.WEIGHT	

8	TRACE CODE	Enter product trace code information,20 alphanumeric characters (Reserved Function)
9	REMARK	Enter product remark information,20 alphanumeric characters
10	PRINT FORMAT	Enter number of label format for product ,it has 10 format for selecting If want to select format 1,input 0 by using numeric keys If want to select format 2,input 1 by using numeric keys If want to select format 3,input 2 by using numeric keys

6.3 Delete Product

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press numeric key  to enter product settings.

- 3 Press  key until to select 3.DELETE PRODUCT

1/1	
PRODUCT INFO	
1.SEARCH	
2.ADD/EDIT PRODUCT	
3.DELETE PRODUCT	
4.CHANGE PLU NUMBER	

- 4 Press  key to confirm,The product list will be displayed.

PRODUCT LIST		1/1
NO.	PLU	NAME
1	001	PRODUCT 1
2	002	PRODUCT 2
3	003	PRODUCT 3
4	004	PRODUCT 4

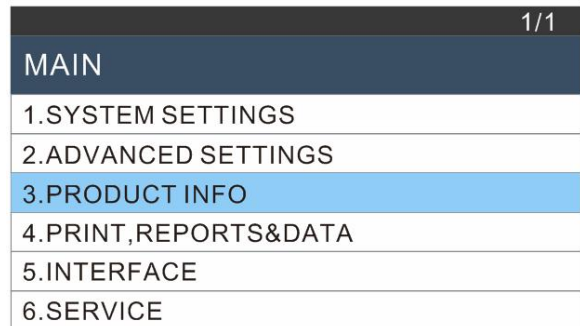
- 8 Using numeric keys to input number,for example: 1 .

- 9 Press  key to delete the product selected, it will pop up a prompt “Do you want to delete it? ” press  key to delete, press  key to escape.



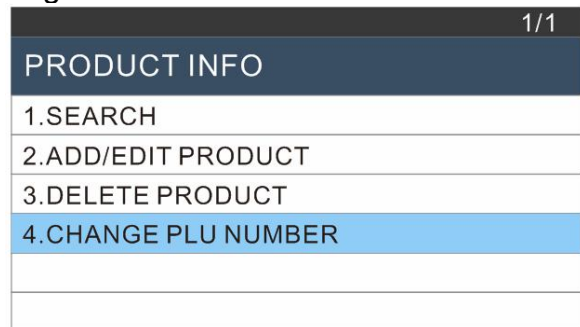
6.4 Change PLU Number

- 1 Press  key to enter the main menu.



- 2 Press numeric key  to enter product settings.

- 3 Press  key until to select 4.CHANGE PLU NUMBER.



- 4 Press  key to confirm, The product list will be displayed.



- 5 Select the PLU number (left side of display) to be changed by using numeric keys.

- 6 Press  key to confirm , the PLU 1 information displayed.

PLU	1	1/2
PRODUCT		
1. NAME	PRODUCT 1	
2. CODE	12569	
3. TARE	0.005 kg	
4. TYPE	WEIGH	
5. MIN. WEIGHT	0.000 kg	
6. MAX. WEIGHT	0.000 kg	

- 7 Press  key to enable change the PLU number, the number at the right upper corner of display will be active.
- 8 Input the PLU number as you desired by using numeric keys and confirm by pressing  key .

PLU	2	1/2
PRODUCT		
1. NAME	PRODUCT 2	
2. CODE	12570	
3. TARE	0.006 kg	
4. TYPE	WEIGH	
5. MIN. WEIGHT	0.000 kg	
6. MAX. WEIGHT	0.000 kg	

- 9 Press  key 3 times to exit and back to normal weighing mode .

7. DATA TRANSFER

7.1 Backup

- Create a folder with csv.data file in the USB disk ,the file name should be “scale data”.
- The folder consists of 3 files: device.csv/ product.csv/ record.csv.
- Insert USB disk to the USB port that is locating in the right side of indicator.

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 In succession press  ,  ,  to enter MANAGE DATA >BACK UP.

1/1	
BACKUP	
1.DEVICE INFO	
2.PRINT FORMAT	
3.REPORTS	
4.PRODUCT INFO	

- 3 Press  key to select the required data's from the list .

- 4 Press  key to confirm.

- 5 Once completed, the display will be pop up a prompt “ back up completed ”.

1/1	
BACKUP	
1.DEVICE INFO	
2.PRINT FORMAT	
3.REPORTS	
4.PRODUCT INFO	
BACKUP COMPELETE	

- 6 Data will be export to the USB disk in csv data file.

Back Up	1.DEVICE INFO	Export device information from Scale to U disk
	2.PRINT FORMAT	Export print format from Scale to U disk
	3.REPORTS	Export reports from Scale to U disk
	4.PRODUCT INFO	Export PLU information from Scale to U disk

Note: It is recommended that clear the data in the U disk before insert the USB disk, the old data will be overwrite when export new data to the U disk.
If failed to insert the U disk, a prompt will be pop up "Please insert the U disk".

7.2 Restore

- Create a folder with csv.data file in the USB disk ,the file name should be “scale data”.
- The folder consists of 3 files: device.csv/ product.csv/ record.csv.
- Insert USB disk to the USB port that is locating in the right side of indicator.

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 In succession press  ,  ,  to enter **MANAGE DATA >RESTORE**.

1/1	
RESTORE	
1.DEVICE INFO	
2.PRINT FORMAT	
3.PRODUCT INFO	

- 7 Press  key to select the required data's

- 8 Press  key to confirm.

- 9 Once completed, the display will be pop up a prompt “ restore completed ”.

1/1	
RESTORE	
1.DEVICE INFO	
2.PRINT FORMAT	
3.PRODUCT INFO	
RESTORE COMPELETE	

10 Data will be import from the USB disk in csv data file to scale.

RESTORE	1.DEVICE INFO	Import device information from U disk to Scale
	2.PRINT FORMAT	Import print format from U disk to Scale
	1.PRODUCT INFO	Import PLU information from U disk to Scale

名称	修改日期	类型
device.csv	2020/10/31 11:43	XLS 工作表
product.csv	2020/11/5 16:21	XLS 工作表
record.csv	2020/10/31 11:43	XLS 工作表

A	B	C	D	E	F	G	H	I	J	K
PLU	ProductName	ProductCode	Tare	Mode	PrintFormat	TraceCode	Remark	Max	Min	PcsWeight
1	M8 screw	20201105001	0.05 kg	WEIGHT	0	123	REMARK 1	1 kg	0.6 kg	0 g
2	M8 nut	20201105002	0.06 kg	WEIGHT	1	124	REMARK 2	2 kg	0.7 kg	0 g
3	spacer	20201105003	0.07 kg	WEIGHT	2	125	REMARK 3	3 kg	0.8 kg	0 g
4	M5 screw	20201105004	0.00 kg	PIECES	0	126	REMARK 4	10 pcs	5 pcs	5 g
5	M6 screw	20201105005	0.01 kg	PIECES	1	127	REMARK 5	10 pcs	6 pcs	5 g
6	M12 screw	20201105006	0.02 kg	PIECES	2	128	REMARK 6	11 pcs	7 pcs	5 g
7	M12 screw	20201105007	0.03 kg	PERCENT	0	129	REMARK 7	20%	10%	10 g
8	M6*20 screw	20201105008	0.04 kg	PERCENT	1	130	REMARK 8	30%	20%	11 g
9	M4 nut	20201105009	0.05 kg	PERCENT	2	131	REMARK 9	40%	30%	12 g
10	slip washer	20201105010	0.06 kg	WEIGHT	0	132	REMARK 10	1 kg	0.6 kg	0 g
11	M8 foot	20201105011	0.07 kg	WEIGHT	1	133	REMARK 11	2 kg	0.7 kg	0 g
12	M6 screw	20201105012	0.00 kg	WEIGHT	2	134	REMARK 12	3 kg	0.8 kg	0 g
13	M6 nut	20201105013	0.01 kg	PIECES	0	135	REMARK 13	10 pcs	5 pcs	5 g
14	spacer	20201105014	0.02 kg	PIECES	1	136	REMARK 14	10 pcs	6 pcs	5 g
15	M7 screw	20201105015	0.03 kg	PIECES	2	137	REMARK 15	11 pcs	7 pcs	5 g
16	M5 screw	20201105016	0.04 kg	PERCENT	0	138	REMARK 16	20%	10%	10 g
17	M10 screw	20201105017	0.05 kg	PERCENT	1	139	REMARK 17	30%	20%	11 g
18	M16 screw	20201105018	0.06 kg	PERCENT	2	140	REMARK 18	40%	30%	12 g
19	M6*15 screw	20201105019	0.07 kg	WEIGHT	1	141	REMARK 19			
20	M3 nut	20201105020	0.00 kg	WEIGHT	2	142	REMARK 20			

ITEM	DESCRIPTION
PLU	Enter PLU number
Product Name	Enter name of the PLU. 10 alphanumeric characters
Product Code	Enter code of the PLU. 20 numeric characters
Tare	Enter pre-tare value of the PLU. 6 numeric characters
Mode	Enter measuring type,1.WEIGH ; 2.PIECES ; 3.PERCENT
Print Format	Enter number of label format for product ,it has 10 format for selecting If want to select format 1,input 0 If want to select format 2,input 1

Trace Code	Enter product trace code information,20 alphanumeric characters (Reserved function)
Remark	Enter product remark information,20 alphanumeric characters
Max	Enter HI limit value including weighing unit
Min	Enter LOW limit value including weighing unit
Pcs Weight	Enter unit weight or standard weight

7.3 Delete

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 In succession press  ,  ,  to enter MANAGE DATA >DELETE.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

1/1	
DELETE	
1.DEVICE INFO	
2.PRINT FORMAT	
3.REPORTS	
4.PRODUCT INFO	

- 3 Press  key to select the required data's from the list .

- 4 Press  key to enter setting.

1/1	
MANAGE DATA	
1.BACK UP	
2.RESTORE	
3.DELETE	

- 5 The option will be active ,press  key to change the settings.

- 6 Press  key to confirm ,press  key to exit the menu.

8. REPORT

The reports database, including Daily Report/Weekly Report /Monthly Report. All of reports data can be exported to external USB disk in a csv.file .

8.1 Periodic report

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key until to select 4.PRINT,REPORTS& DATA, press  key to enter;

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 3 Press  key to select 2. PERIODIC REPORT, press  key to enter;

1/1	
PRINT,REPORTS&DATA	
1.PRINT CONFIGURATION	
2.PERIODIC REPORT	
3.PRODUCT REPORT	
4.ALIBI MEMORY RECORDS	
5.MANAGE DATA	
6.RESET TO DEFAULT	

- 4 Press  key to select ,press  key to exit the menu.

1/1	
PERIODIC REPORT	
1.DAILY REPORT	
2.WEEKLY REPORT	
3.MONTHLY REPORT	

1.DAILY REPORT

Press  key,the daily report appears on the display.

Press  key to exit and back to Setting menu.

DATE: 17/10		DAILY REPORT		1/1
TIME	NO.	NAME	NET	RESULT
11:38	1	OTHERS	0.271 kg	NONE
11:38	2	OTHERS	0.271 kg	NONE
11:39	3	OTHERS	0.271 kg	NONE
11:40	4	OTHERS	0.271 kg	NONE
11:40	5	OTHERS	0.271 kg	NONE
11:41	6	OTHERS	0.271 kg	NONE
TOTAL		6	TOTAL NET	1.626kg

2.WEEKLY REPORT

Press  key,the weekly report appears on the display.

Press  key to exit and back to Setting menu.

WEEKLY REPORT				1/1
DATE	ITEM	NET(kg)	COUNT(pcs)	
20-10-19	1	0.271	0	
TOTAL				1 0.271 0

3.MONTHLY REPORT

Press  key,the monthly report appears on the display.

Press  key to exit and back to Setting menu.

MONTHLY REPORT				3/5
DATE	ITEM	NET(kg)	COUNT(pcs)	
20-10-15	1	2.707	0	
20-10-16	1	0.271	0	
20-10-17	1	0.271	0	
20-10-18	2	2.365	0	
20-10-19	1	0.271	0	
20-10-20	1	0.271	0	
20-10-21	1	0.271	0	
TOTAL				8 6.427 0

8.2 Product Report

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key until to select 4.PRINT,REPORTS& DATA, press  key to enter;

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 3 Press  key to select 3. PRODUCT REPORT, press  key to enter.

1/1	
PRINT,REPORTS&DATA	
1.PRINT CONFIGURATION	
2.PERIODIC REPORT	
3.PRODUCT REPORT	
4.ALIBI MEMORY RECORDS	
5.MANAGE DATA	
6.RESET TO DEFAULT	

- 4 The start date will be active,input the start date by using numeric keys, press  key to confirm.

1/1	
START DATE	20-10-01
END DATE	20-10-19

- 5 The end date will be active,input the end date by using numeric keys, press  key to confirm.

1/1	
START DATE	20-10-01
END DATE	20-10-19

- 6 The product report appears on the display.

PRODUCT REPORT 1/1			
PLU	PRODUCT	ITEM	TOTAL(kg)
001	OTHERS	2	2.365
002	PRODUCT 2	6	4.062
20-10-01 ~ 20-10-19			

8.3 Export Report

For more information,please refer to section **7.1 BACK UP**

8.4 Delete Report

For more information,please refer to section **7.3 DELETE**

Note:Only Daily report can be printed out by pressing  key ,other reports can not be printed out.

9. PARAMETERS

9.1 Enter into the Menu

- Turn on the scale. Display will be show T-scale logo
- Then come to the normal weighing mode
- Press  key to enter menu parameters setting
- Press numeric keys to enter the corresponding menu options

For example:

Press numeric key 1 to access basic settings in the main menu

Press numeric key 1 to access Device infor in the sub-menu

9.2 Keys in the parameter settings

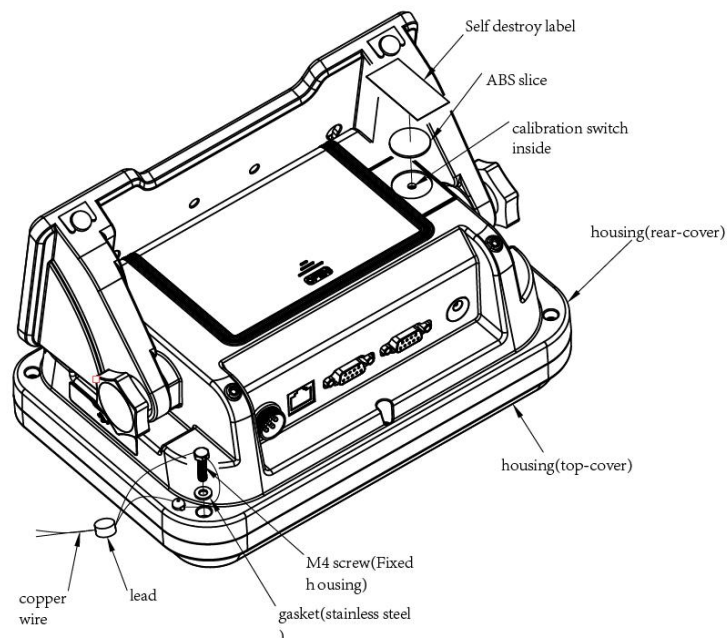
	To enter into the function and parameter settings
	Escape from the parameter settings and return to the normal weighing mode

9.3 Active Parameter

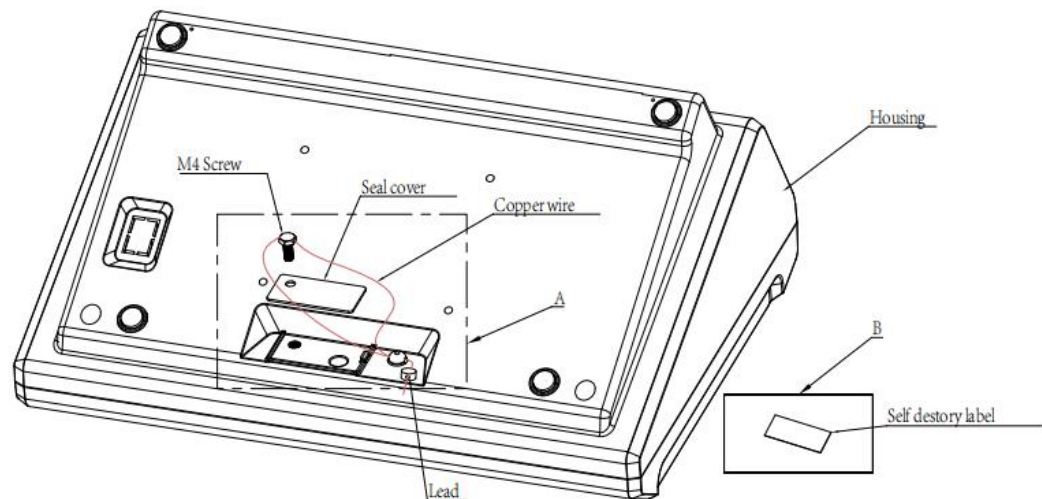
Note:If want to change the settings: **2.Advance settings; 6.Service**

Before enter the parameters,Press CAL switch to enable parameters to access. CAL switch is locating back side of the indicator

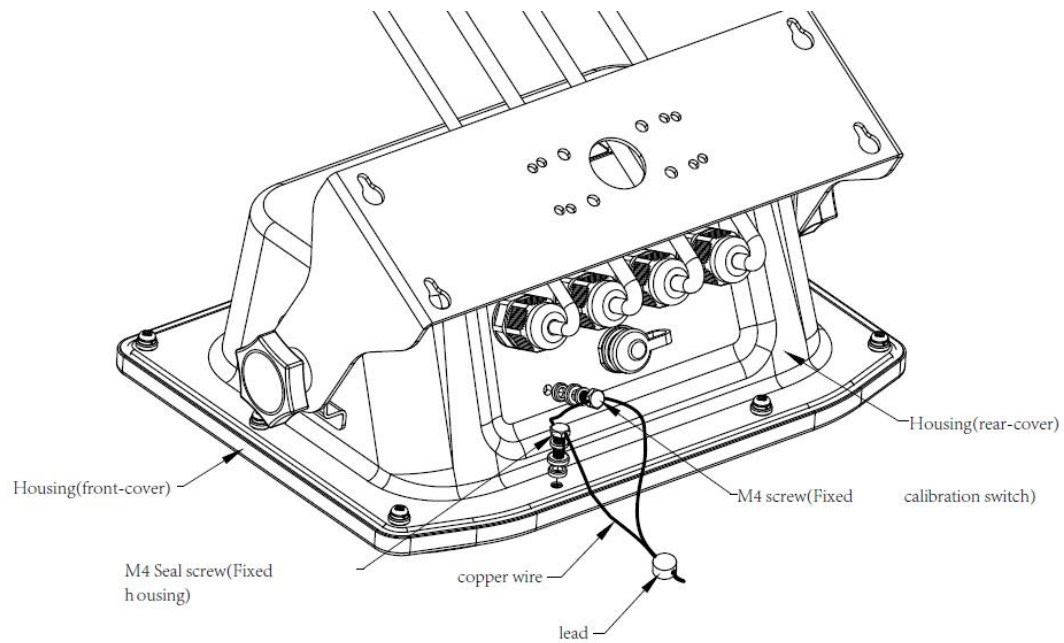
TW20



EW20



NS20



Setting has the following items for configuring

Menu	Sub Menu		Description	
1.SYSTEM SETTINGS	1.TERMINAL INFO	1.COMPANY		Used to set device information
		2.DEPARTMENT		
		3.SCALE NUMBER		
		4.PHONE		
		5.ADDRESS		
	2.DATE / TIME	1.SET DATE		Used to set date and time
		2.SET TIME		
		3.SEPARATOR	-	
			/	
		4.DATE FORMAT	YYMMDD	
			DDMMYY	
			MMDDYY	
	3.LANGUAGE	简体中文		Used to change different languages
		ENGLISH		
	4.LOGIN	NO		There is no need to login when power is on
		YES		It's required to login when power
	5.BACKLIGHT	LOW		Used to set luminance of
		NORMAL		
		BRIGHT		
	6.AUTO POWER OFF	OFF		Used to set power auto off time
		0.5 HOUR		
		1 HOUR		
		5 HOURS		
		10 HOURS		
	7.USER	1.Admin 1	ID	Used to set ID \NAME \password for administrator,includng 2 admin information
			NAME	
			PASSWORD	
		2.Admin 2	ID	
			NAME	
			PASSWORD	
		3.Operator 1	ID	Used to set ID \NAME \password for operator,including 7 operators information
			NAME	
			PASSWORD	
		4.Operator 2	ID	
	NAME			
	PASSWORD			
	5.Operator 3	ID		
		NAME		

			PASSWORD	
		6.Operator 4	ID	
			NAME	
			PASSWORD	
		7.Operator 5	ID	
			NAME	
			PASSWORD	
		8.Operator 6	ID	
			NAME	
			PASSWORD	
		9.Operator 7	ID	
			NAME	
			PASSWORD	
8.RESET TO DEFAULT				Reset system setting to default
2.ADVANCED SETTINGS	1.WEIGHING UNIT	1. g		To set weighing units on/off
		2. kg		
		3. lb		
		4. oz		
		5. t		
		6. tj		
		7. hj		
	2.ZERO SETTINGS	1.INITIAL ZERO	OFF	To set initial zero range ,the default range is 10%
			2%	
			5%	
			10%	
			20%	
			50%	
		2. SEMI-AUTO ZERO	OFF	To set semi-auto range ,the default range is 2%
			2%	
			5%	
			10%	
			20%	
			50%	
		2. ZERO TRACKIN G	OFF	To set zero tracking range ,the default range is 0.5d
			0.5d	
			1d	
2d				
4d				
3.TARE SETTINGS	1.AUTO TARE	ON	Used to set auto tare function on	
		OFF	Used to set auto tare function off	

		2.MULTI TARE	ON	Used to set multi tare function on
			OFF	Used to set multi tare function off
	4.WEIGHING MODE	NORMAL		Used to set different weighing mode
		FAST		
		SLOW		
		ANIMAL WEIGH		
		PEAK HOLD		
	5.ANIMAL WEIGH	1.FLOATI NG RANGE	1d	For animal weigh setting,it's required to set 4.weighing mode to animal weigh
			2d	
			5d	
			10d	
			20d	
			50d	
		2.STABLE TIME	5 SEC	
			10 SEC	
			20 SEC	
			30 SEC	
			40 SEC	
			50 SEC	
		3.JUMP RANGE	1d	
2d				
5d				
10d				
20d				
50d				
6.BEEP MODE	OFF		Used to select beep mode for limit tolerance	
	WITHIN LIMITS			
	BELOW MIN. LIMIT			
	ABOVE MAX. LIMIT			
	BEYOND LIMITS			
7.ACCUMULATION	1.ACCUM ULATION MODE	MANUAL	Used to select different accumulation mode	
		AUTO-LOAD		
		AUTO- UNLOAD		

			2.ALLOW ALL PRODUCTS	YES	Used to set the accumulation method for different products		
			NO				
			3.PRINT EVERY RECORD	On	Used to set whether to print when accumulation		
			Off				
			4.MIN. LOAD	2d	Used to select Minimum division for printing		
				5d			
				10d			
				20d			
			8.RESET TO DEFAULT				To reset advanced settings to default
			3.PRODUCT INFO	1.SEARCH		To search product information	
2.ADD/EDIT PRODUCT		1.NAME		For more product information,please see section 6.DATABASE PROGRAMMING			
		2.CODE					
		3.TARE					
		4.TYPE			WEIGH		
					PIECES		
					PERCENT		
		5.MIN. WEIGHT					
		6.MAX. WEIGHT					
		7.TRACE CODE					
		8.REMARK					
9.PRINT FORMAT	Format 1						
	Format 2						
	Format 3						
3.DELETE PRODUCT				To delete product information			
4.CHANGE PLU NUMBER				To change PLU number			
4.PRINT ,REPORT S &DATA	1. PRINT CONFIGURATION	1.HEADE R/FOOTE R	1.HEADER 1		Used to set header or footer for receipt format,it can be printed on the receipt format		
			2.HEADER 2				
			3.HEADER 3				
			4.FOOTER 1				
			5.FOOTER 2				
			6.FOOTER 3				
	2.PRINT FORMAT	1.LABEL FORMAT	FORMAT 1		To select the print format for printing		
			FORMAT 2				

				FORMAT 3		
			2.TOTAL LABEL	FORMAT 1		
			3.TOTAL RECEIPT	FORMAT 1		
		3.TOTAL PRINT TYPE	LABEL			To select total print type
			RECEIPT			
		4.NUMBER OF COPIES	1			To select print times for label format
			2			
			3			
			4			
			5			
	2.PERIODIC REPORT			1.DAILY	To view different periodic reports	
				2.WEEKLY		
				3.MONTHLY		
	3.PRODUCT REPORT				To view product reports	
	4.MANAGE DATA			1.BACKUP	Data import or export management	
				2.RESTORE		
				3.DELETE		
	5.RESET TO DEFAULT				Reset 4.PRINT ,REPORT S &DATA to	
	5.INTERFACE	1.SERIAL	1.TYPE		RS232	To select the serial type
					RS485	
2.MODE			CONTINUOUS	Send continuous data		
			ON STABLE	Send data one time when stable		
			CONT.AFTE R STABLE	Send continuous stable data		
			ON PRINT KEY	Press PRINT key to get data one time		
			PRINTER	Connect with printer (Only for RS232 mode)		

			ASK		ASK Command R Read data T Tare Z Zero (Only for RS232 mode)
			1.LOCAL/REMOTE	OFF	Set local or remote sent in the communication protocol to be turned on or off.
				ON	
			2.DATE/TIME	OFF	Set date/time sent in the communication protocol to be turned on or off.
				ON	
			3.PLU NUMBER	OFF	Set the PLU number sent in the communication protocol to be turned on or off.
				ON	
			4.PRODUCT NAME	OFF	Set the product name sent in the communication protocol to be turned on or off.
		3.SEND CONTENT	5.NET	Net weight in communication protocol	
			6.UNIT WEIGHT	OFF	Set the unit weight sent in the communication protocol to be turned on or off.
				ON	
			7.QUANTITY	OFF	Set counts sent in the communication protocol to be turned on or off.
				ON	
			8.RESULT	OFF	Set results of limit tolerance sent in the communication protocol to be turned on or off.
				ON	

			9.OPE RATO R	OFF	Set operator sent in the communication protocol to be turned on or off.
				ON	
		4.EXTERNAL PRINTER	1.NONE		To select the external printer (Only for RS232 mode)
			2.OS2130D		
			3.TPUP		
			4.RP80VI		
			5.AP58S		
			6.ZEBRA		
		5.BUILT-IN PRINTER	OFF		To set built-in printer on/off (only for EW20)
			ON		
		6.BAUD RATE	4800		To select baud rate from list ,default is 9600
			9600		
			19200		
			38400		
			115200		
		7.DATA BITS	7		To select data bits from list ,default is 8
			8		
			9		
		8.STOP BITS	1		To select stop bits from list ,default is 1
	2				
	9.PARITY	NONE		To select parity from list ,default is even	
		ODD			
		EVEN			
	2.ETHERNET	1.IP ADDRESS		To configure Ethernet information	
		2.MASK			
		3.GATEWAY			
		4.PHYSICAL ADDRESS			
	3.WIFI	1.ON/OFF		To configure WIFI information	
		2.PASSWORD			
		3.SEARCH			
		4.IP ADDRESS			
		5.MASK			
		6.GATEWAY			
		7.PHYSICAL			
		8.TIME OUT			
4.BLUETOOTH	1.ON/OFF	OFF	To enable or disable Bluetooth function		
		ON			

		2.NAME		To show Bluetooth name		
	5.RESET TO DEFAULT			Reset 5.interface configuration to default		
6.SERVICE	1.VERSION INFO	1.BOOT	1.02	Used for checking version information		
		2.WEIGHI NG	V1.10			
		3.APPLIC ATION	A1.12			
		4.SCREE N/KEYBO ARD	K1.01			
	2.SYSTEM SERVICE	1.SERIAL NUMBER				
		2.TECH PASSWORD		To set password for technician		
		3.GRAVITY		To set the local gravity		
	3.CALIBRATI ON PARAMETER S	1.APPRO VAL TYPE	NOT	To set different approval type		
			OIML			
			NTEP			
			CPA			
			SRI			
		2.SHOW SCALE PROPERT IES	NO	Date and time will be show at the upper side of display in operator interface		
			YES	The properties of capacity will be show at the upper side of display in operator interface		
		3.CALIBR ATION UNIT	kg	To set calibration unit		
			lb			
		4.Scale 1	1.SCALE RANGE SETING	1.RAN GE MODE	SINGL E RANGE	To set range mode
					DUAL RANGE	
					DUAL INTER VAL	
				2.CAP ACITY	To input the scale capacity	
				3.DECI MAL POINT	0	To set decimal point
					0.0	
					0.00	

					0.000	To set division
					0.0000	
				4.DIVISION	1	
					2	
					5	
			10			
			2.CALIBRATION	1.NORMAL	To calibrate the scale in normal calibration	
				2.LINEAR	To calibrate the scale in linear calibration	
				3.ZERO	To calibrate the scale in zero calibration	
			3.LASTCALIBRATION		To view the last calibration info.	
		4.INTERNAL COUNT		To show the internal counts		
		5.Scale 2	1.ON/OFF		To turn on/off the second platform	
			2.SCALE RANGE SETING	1.RANGE MODE	SINGLE RANGE/DUAL RANGE/DUAL INTERVAL	
				2.CAPACITY	To input the scale capacity	
				3.DECIMAL POINT	To set decimal point 0/0.0/0.00/0.000/0.0000	
	4.DIVISION			To set division 1/2/5/10		
	3.CALIBRATION		1.NORMAL	To calibrate the scale in normal calibration		
			2.LINEAR	To calibrate the scale in linear calibration		
			3.ZERO	To calibrate the scale in zero calibration		
	4.LAST CALIBRATION		To view the last calibration info.			
	5.INTERNAL COUNT		To show the internal counts			
	4.UPDATE SOFTWARE	1.UPDATE PRINTER (USB)		To update application software via TTC back office software		

		2.UPDATE FIRMWARE (USB)	To update application software via U disk
	5.HARDWARE TEST	1.KEYBOARD TEST	For more information,please see section
		2.DISPLAY TEST	
		3.RS232 TEST	
		4.ETHERNET TEST	
		5.USB TEST	
		6.LOAD CELL TEST	
		7.BATTERY TEST	
	6.RESET ALL		Used to reset to factory setting,scale will be restart and come to normal weighing mode

10. CALIBRATION

It allows selecting Normal calibration、 Linear calibration、 Zero calibration to calibrate the scale.

10.1 Normal Calibration

- Press  key to enter setup menu.

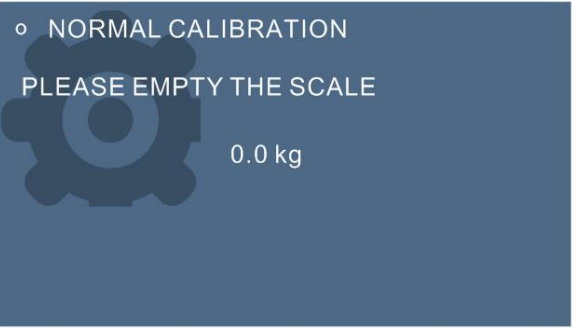
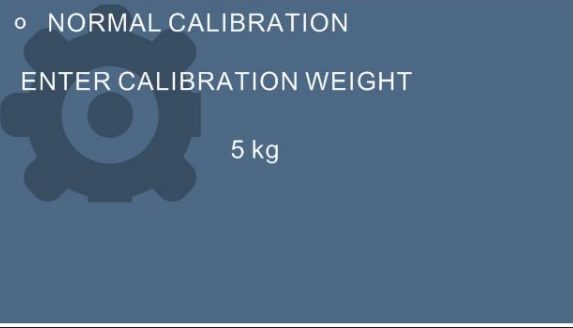
- Using numeric keys 、、
、 to enter calibration.

6.Service> 3.calibration parameters >

4.SCALE1 > 2.Calibration> 1.Normal Calibration

CALIBRATION		1/1
1.NORMAL CALIBRATION		
2.LINEAR CALIBRATION		
3.ZERO CALIBRATION		

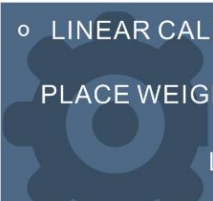
- Before access to the parameter,it need to press calibration switch,locating back side of indicator in approval version.

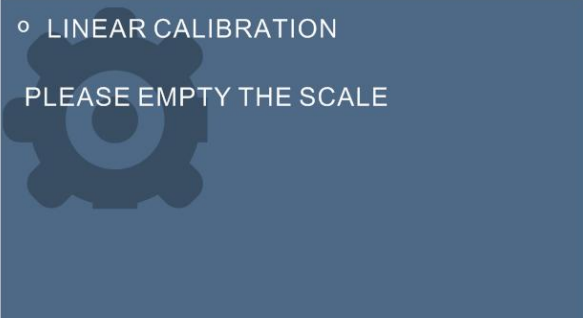
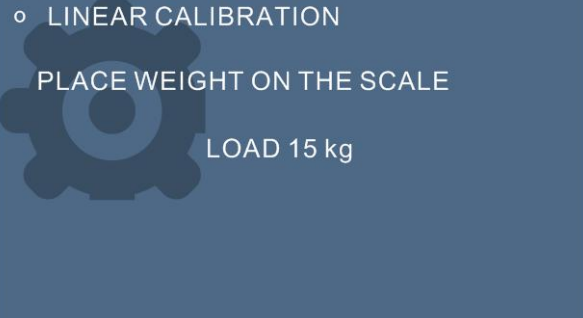
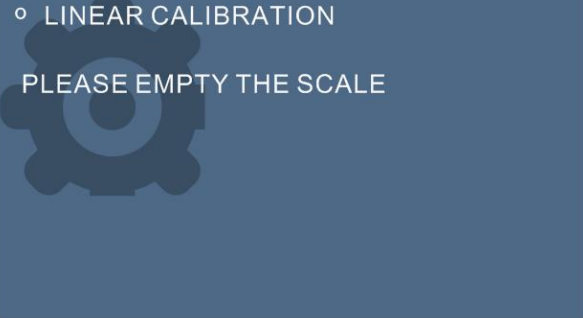
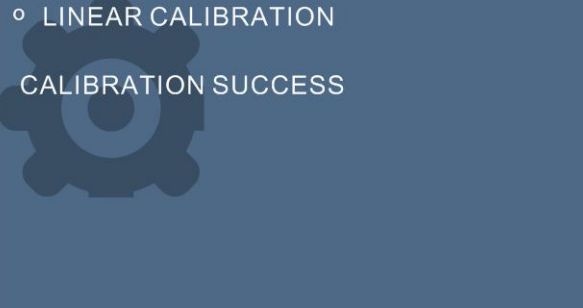
Steps	Remark
1 Press  Key to enter. The display will be show “Please empty the scale” 2 Remove goods from the platter.	
3 Press  key to confirm. The display will be show “Enter calibration weight by using numeric keys ”.	

4 Press  key to confirm. 5 Place the test weight on the platter. Better to use minimum 1/3 of the scale capacity)	◦ NORMAL CALIBRATION PLACE WEIGHT ON THE SCALE LOAD 5.0 kg
6 Press  key to confirm. The display will be show “Please empty the scale”. 7 Remove the test weight from the scale.	◦ NORMAL CALIBRATION PLEASE EMPTY THE SCALE
8 Press  key to confirm The display will be show “Calibration success ” (Calibration Completed and back to the normal weighing mode)	◦ NORMAL CALIBRATION CALIBRATION SUCCESS

10.2 Linear Calibration

- Press  key to enter setup menu.
- Using numeric keys      to enter calibration.
6.Service> 3.calibration parameters > 4.SCALE1 > 2.Calibration> 2.Linear Calibration
- Before access to the parameter,it need to press calibration switch,locating back side of indicator in approval version.

Steps	Remark
1 Select calibration points as per resolution of scale.	1/1 LINEAR CALIBRATION 1.3 POINTS CALIBRATION 2.4 POINTS CALIBRATION 3.5 POINTS CALIBRATION 4.6 POINTS CALIBRATION 5.7 POINTS CALIBRATION
2 Please empty the scale,press  key to confirm when stable indicator on.	◦ LINEAR CALIBRATION PLEASE EMPTY THE SCALE 
3 Enter the first calibration weight by using numeric keys . 4 Press  key to confirm.	◦ LINEAR CALIBRATION ENTER CALIBRATION WEIGHT 5 kg 
5 Load the first weight on the platter. (Better to use minimum 1/3 of the scale capacity) 6 Press  key to confirm when stable indicator on.	◦ LINEAR CALIBRATION PLACE WEIGHT ON THE SCALE LOAD 5.0 kg 

7 Display show “please empty the scale”. 8 Remove the weight from scale.	
9 It will pop up the full capacity calibration weight automatically. 10 Press  key to confirm.	
11 Load the full capacity weight on the platter. 12 Press  key to confirm when stable indicator on.	
13 Display show “please empty the scale”. 14 Remove the weight from scale.	
15 The display will be show calibration success. (Calibration Completed and back to the normal weighing mode)	

Linear Calibration Weight								
Resolution	Calibration points	LOAD 0	LOAD 1	LOAD 2	LOAD 3	LOAD 4	LOAD 5	LOAD 6
1/10,000 ~1/30,000	3 points	Unload	1/3 Max	Full	NA			
	4 points	Unload	1/3 Max	2/3 Max	Full	NA		
1/30,000~ 1/100,000	5 points	Unload	1/6 Max	1/3 Max	2/3 Max	Full	NA	
	6 points	Unload	1/6 Max	1/3 Max	1/2 Max	2/3 Max	Full	NA
>1/100,000	7 points	Unload	1/6 Max	1/3 Max	1/2 Max	2/3 Max	5/6 Max	Full

Note: If the resolution of scale is more than 1/30,000 , please select linear calibration option to calibrate the scale.

10.3 Zero Calibration

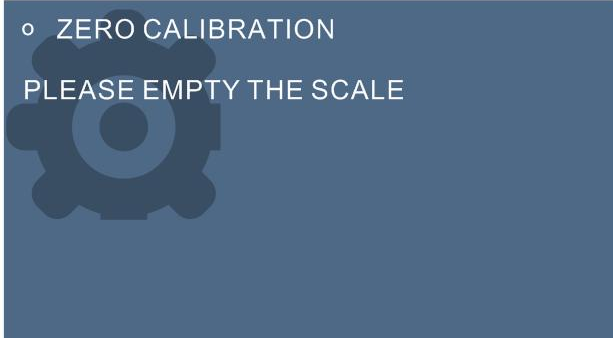
1 Press  key to enter setup menu.

2 Using numeric keys   ,
   to enter calibration.

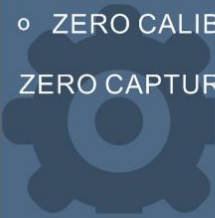
**6.Service> 3.calibration
parameters > 4.SCALE1 >
2.Calibration> 3.Zero Calibration**

1/1
CALIBRATION
1.NORMAL CALIBRATION
2.LINEAR CALIBRATION
3.ZERO CALIBRATION

3 Before access to the parameter,it need to press calibration switch,locating back side of indicator in approval version.

Steps	Remark
The display will be show “Please empty the scale” 1 Remove weight from the platter	

- 2 Press  key to confirm
- 3 The display will be show “ Zero capture success”
- (Calibration Completed and back to the normal weighing mode)

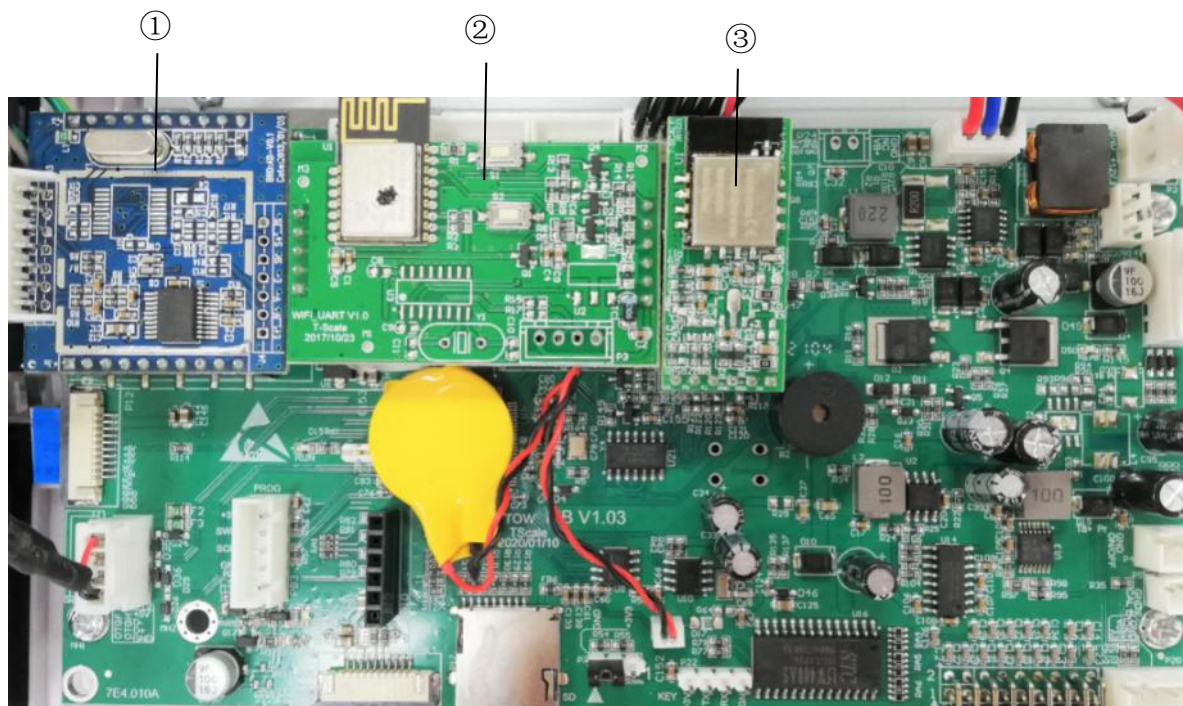


◦ ZERO CALIBRATION
ZERO CAPTURE SUCCESS

11. COMMUNICATION

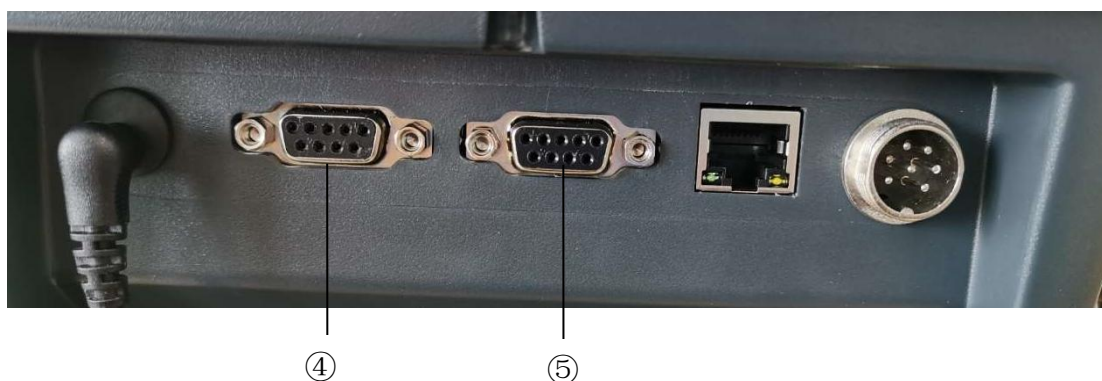
11.1 General

Device has the RJ45, USB, RS232, Wi-Fi interface options for meeting different communication needs.

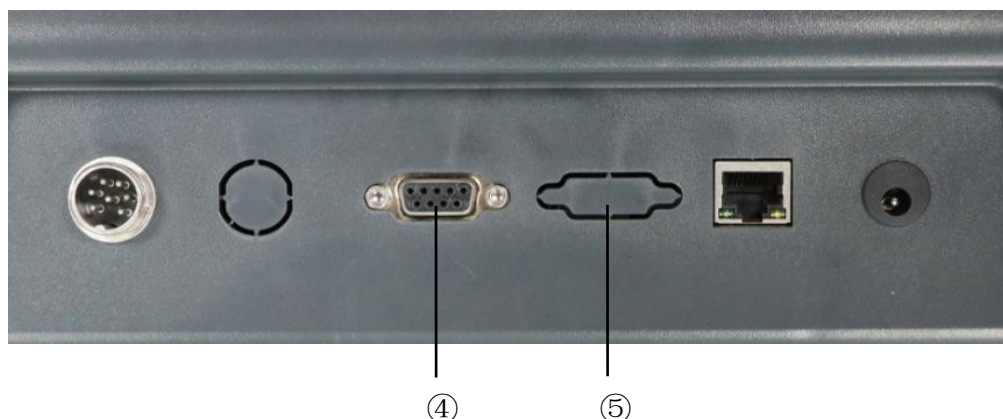


- ① Second platform module
- ② WIFI module
- ③ Bluetooth module

TW20



EW20

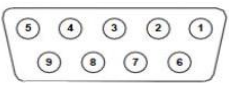
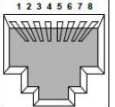


④ RS232 & Alarm light connector

⑤ RS485 & Second platform connector (option)

Note: 1.The RS485 & Second platform function only can choose one from the two

2. RS485 & Second platform function are not available for NS20 model

Type	Connector	Speed	Distance	Device
RS-232C	DB 9Pin Connector 	115200bps	Max 15m	PC, Printer
Ethernet	RJ-45 Connector 	100Mbps (100 Base-T)	Max 100m	PC, Router, Scale
Wireless	Wi-Fi 	150Mbps IEEE 802.11n	Max 50m	PC, Router, Scale
USB	USB A-Type Connector 	115200bps	Max 15m	External USB storage, mouse Barcode Scanner

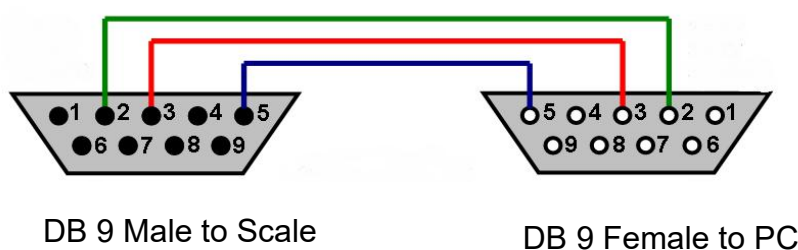
11.2 RS232 wire and Alarm Light wire connection

11.2.1 Specifications

Please refer to parameters 5.INTERFACE > 1.SERIAL > 1.TYPE >RS232

11.2.2 RS-232 (DB9 type connector)

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



PIN	Connection
1	DC+5V
2	RX
3	TX
4	VCC
5	GND
6	OK
7	LOW
8	HI
9	BEEP

Note: If data is not getting, interchange one of the connector Pin 2 & Pin 3 connections.

11.2.3 Continues weight output

The content to be send can be enabled or disabled with continuous output.
the detail protocol as follows

local	;	Dat	,	Tim	;	PL	;	Na	;	S	,	N	-/□	Data	;	U	C	LF
1		2		3		4		5		6		7	8	9		10		11
Dat	;	QT	;	Data	;	Result	;	User										
a		Y																
12		13		14		15		16										

No.	Content	Description
1	local	Local: local scale; Remote:Remote scale
2	Date	Date, 10 characters with delimiters
3	Time	Time, 8 characters with delimiters
4	PLU	PLU number, 3 characters
5	Name	Product name, 10 alphanumeric characters with delimiters
6	ST	ST=STABLE , US=UNSTABLE
7	NT	NT=NET,GS=GROSS

8	-/ □	Negative symbol or spacer
9	Data	Net value,9 digits including decimal points and weighing units
10	UW	UW=UNIT WEIGHT
11	CR/LF	Carriage return / line feed
12	Data	Unit weight value, 12 digits including decimal points and weighing units
13	QTY	QTY=QUANTITY
14	Data	Quantity value, 11 digits including decimal points and weighing units
15	Result	Weight、Quantity、Percentage result: high、ok、low
16	User	User name

NET Continuous protocol

Stable data communication

S	T	,	N	T	-/ □								k	g	CR	LF
HEADER1-			HEADER2-			-WEIGHT DATA-						-WEIGHT UNIT-				

Unstable data communication

U	S	,	N	T	-/ □								k	g	CR	LF
HEADER1-			HEADER2-			-WEIGHT DATA-						-WEIGHT UNIT-				

HEADER1: ST=STABLE , US=UNSTABLE

HEADER2: NT=NET,GS=GROSS

WEIGHING UNIT: kg

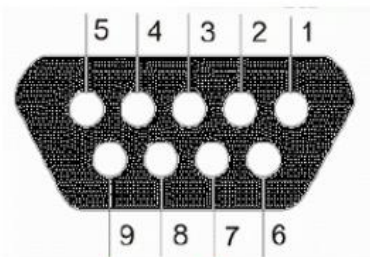
11.3 RS485 wire connection

11.3.1 Specifications

Please refer to parameters 5.INTERFACE > 1.SERIAL > 1.TYPE > RS485

11.3.2 RS-485 (DB9 type connector)

9pin Connector:



PIN	Connection
1	RX-
6	RX+
7	TX-
9	TX+

11.3.3 Continues weight output

The content to be send can be enabled or disabled with continuous output.
the detail protocol as follows

local	;	Dat	,	Tim	;	PL	;	Na	;	S	,	N	-/ □	Data	;	U	C	LF
1		2		3		4		5		6		7	8	9		10		11
Dat	;	QT	;	Data	;	Result	;	User										
a		Y																
12		13		14		15		16										

No.	Content	Description
1	local	Local: local scale; Remote:Remote scale
2	Date	Date, 10 characters with delimiters
3	Time	Time, 8 characters with delimiters
4	PLU	PLU number, 3 characters
5	Name	Product name, 10 alphanumeric characters with delimiters
6	ST	ST=STABLE , US=UNSTABLE
7	NT	NT=NET,GS=GROSS
8	-/ □	Negative symbol or spacer
9	Data	Net value,9 digits including decimal points and weighing units
10	UW	UW=UNIT WEIGHT
11	CR/LF	Carriage return / line feed
12	Data	Unit weight value, 12 digits including decimal points and weighing units
13	QTY	QTY=QUANTITY
14	Data	Quantity value, 11 digits including decimal points and weighing units
15	Result	Weight、Quantity、Percentage result: high、ok、low
16	User	User name

NET Continuous protocol

Stable data communication

S	T	,	N	T	-/ □									k	g	CR	LF
HEADER1-			HEADER2-			-WEIGHT DATA-							-WEIGHT UNIT-				

Unstable data communication

U	S	,	N	T	-/ □									k	g	CR	LF
HEADER1-			HEADER2-			-WEIGHT DATA-							-WEIGHT UNIT-				

HEADER1: ST=STABLE , US=UNSTABLE
 HEADER2: NT=NET,GS=GROSS
 WEIGHING UNIT: kg

11.4 Print Format (Label & Receipt)

It allows user to customized the label and receipt formats through TTC back office software, the formats can be designed up to 10 formats.

Format 1(Weight):

2020/04/14 15: 32	
CODE	12563
PRODUCT	Screw
NO.	1
GROSS	0.272 kg
TARE	0.000 kg
NET	0.272 kg
RESULT	OK
OPERATOR	Admin

Format 1(Quantity):

2020/04/14 15: 32	
CODE	12563
PRODUCT	Screw
NO.	1
NET	0.276 kg
U.WT	5.0000 g
COUNT	55 pcs
RESULT	OK
OPERATOR	Admin

Format 1(Percent):

2020/04/14 15: 32	
CODE	12563
PRODUCT	Screw
NO.	1
NET	0.276 kg
BASE	0.600 kg
PERCENT	45.3%
RESULT	OK
OPERATOR	Admin

Format 2(Weight):

NO.	2
GROSS	0.294 kg
TARE	0.000 kg
NET	0.294 kg
TOTAL	2.746 kg

Format 2(Quantity):

NO.	1
NET	0.276 kg
U.WT	5.0000 g
COUNT	55 pcs
TOTAL	1656 pcs

Format 2(Percent):

NO.	1
NET	0.276 kg
BASE	0.600 kg
PERCENT	45.3%

Format 3(Weight):

Screw	
NET	0.274 kg

Format 3(Quantity):

Screw	
COUNT	551 PCS

Format 3(Percent):

Screw	
PERCENT	0.0%

Total label format:

2020/04/14 15: 32	
Total Items	5
T.Gross	1.55 kg
T. Tare	0.00 kg
T.Net	1.55 kg
T.Over	2
T.OK	2
T.Under	1
Operator	AA

Total receipt format:

2020/04/14		15:32	
OPERATOR		AA	

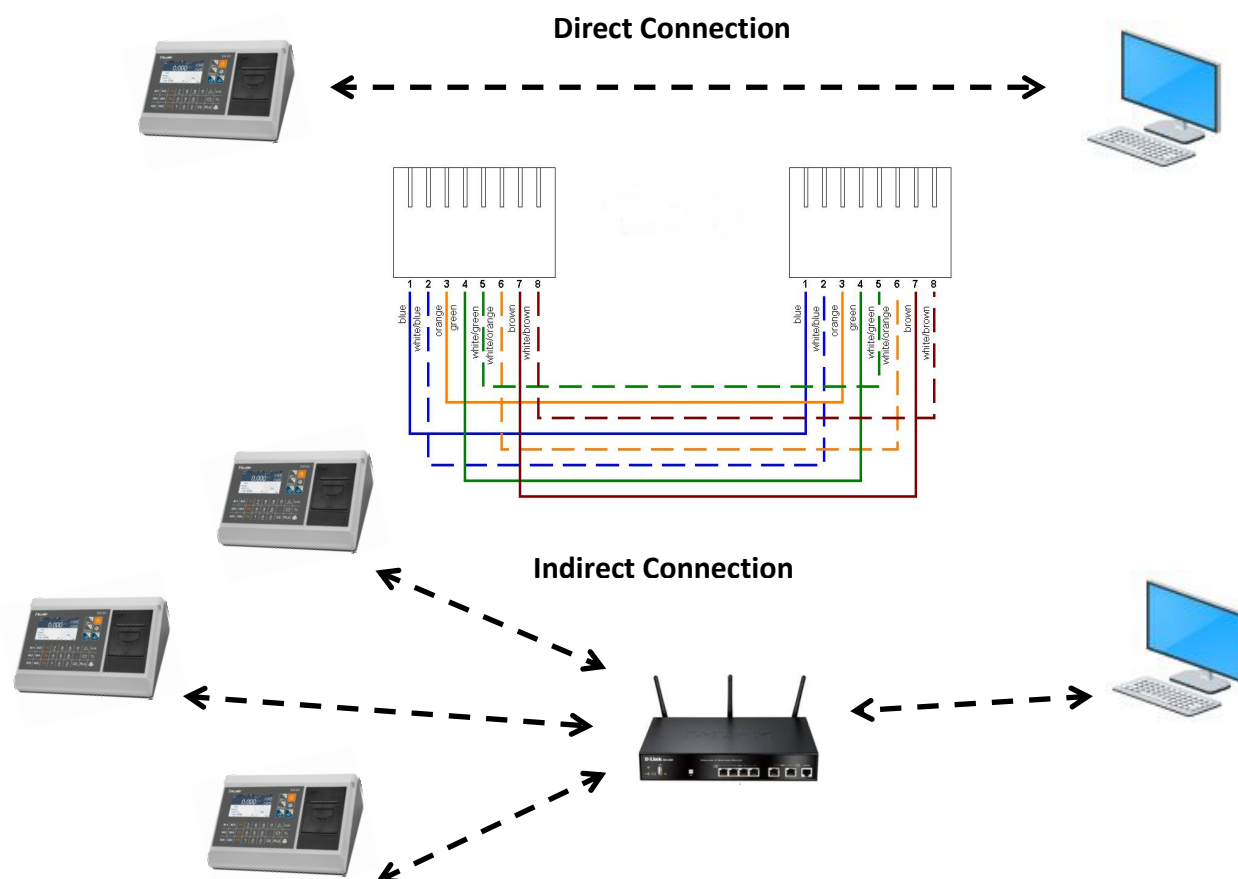
No.	Net	Counts	Result

1.	0.310 kg	0.000kg	OK
2.	0.310 kg	0.000kg	OVER
3.	0.310 kg	0.000kg	UNDER
4.	0.310 kg	0.000kg	OK
5.	0.310 kg	0.000kg	OVER

Total Items			5
T.Net			1.55 kg
T.Counts			9 pcs
T.Over			2
T.OK			2
T.Under			1

11.5 Ethernet Connection

11.5.1. Ethernet straight wire connection



The setting required for Ethernet network interface with PC application software.

Settings for Ethernet option		Remarks
IP Address	192.168.010.100	Local IP address - Should be in 4 groups and each groups should have 3 digits. Value should not be More than 255
Mask	255.255.255.0	Used to set the subnet mask. Sub netting is used to break the network into smaller, more efficient subnets to prevent excessive rates of Ethernet packet collision in a large network
Gateway	192.168.010.001	Used to enter the default gateway address as per the network requirement,the last number must be 1
Physical Address	192.168.010.002	Used to enter the primary DNS as per the network requirement

Operation:

1 Make connection the scale with computer or router by using RJ45 Ethernet cable.

2 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

3 Press  key to select **5.INTERFACE**, Press  Key to enter.

4 Press  key to select **2.ETHERNET**.

1/1	
INTERFACE	
1.SERIAL	
2.ETHERNET	
3.WIFI	
4.BLUETOOTH	
5.RESET TO DEFAULT	

5 Input the IP address . ect as per the network Set.

1/1	
ETHERNET	
1.IP ADDRESS	10.5.52.252
2.MASK	255.255.255.0
3.GATEWAY	10.5.52.1
4.PHYSICAL ADDRESS	20.00.00.00.00.03

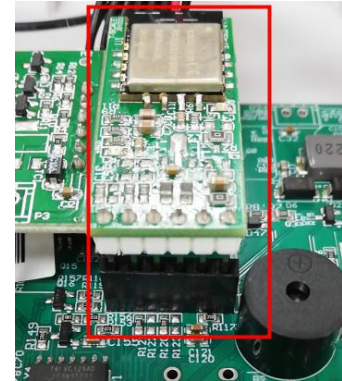
6 Press  key 3 times to back to set up menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

11.6 Bluetooth Communication (optional)

11.6.1 Bluetooth Installation

- 1 Remove the screws from the indicator housing
- 2 Open the housing
- 3 Insert the Bluetooth module into the main board



11.6.2 Bluetooth Setting

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key to select **5.INTERFACE**, Press  Key to enter.

1/1	
INTERFACE	
1.SERIAL	
2.ETHERNET	
3.WIFI	
4.BLUETOOTH	
5.RESET TO DEFAULT	

- 3 Press  key to select **4.BLUETOOTH**.
- 4 Press  Key to enter.

- 5 Press  key to select ON and the Bluetooth Indicator will be on.

1/1	
BLUETOOTH	
1.ON/OFF	ON
2.NAME	

- 6 Press ON/OFF key to turn off the scale and press the key to restart the scale again, enter the Bluetooth setting ,the module name will be show

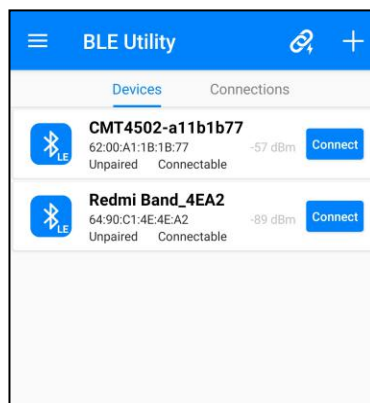
1/1	
BLUETOOTH	
1.ON/OFF	ON
2.NAME	TTM:NAM-CMT4502-a11b1b77

- 7 Press  key 3 times to back to set up menu.

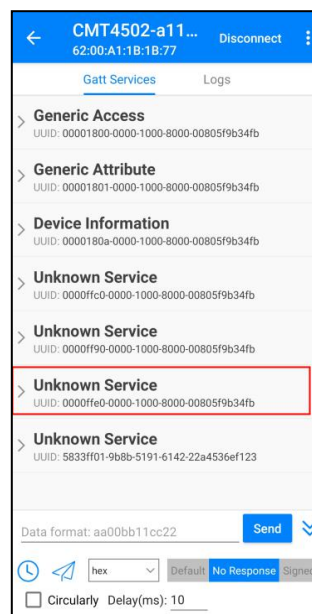
Note: The following steps used for testing communication (only BLE Utility available for testing)

- Turn on the BLE Utility software  in your phone, it can be download from AppGallery
- Scale should be in the allowed limits of the distance to connect Bluetooth.

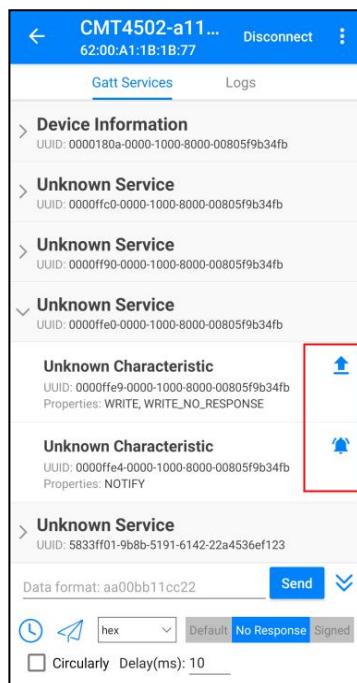
- 1 Tab the connect button to connect the Bluetooth module
- 2 Select the Unknown Service the last but one
- 3 Tab it and turn on the icon
- 4 Once set it successfully ,the weighing data will be show



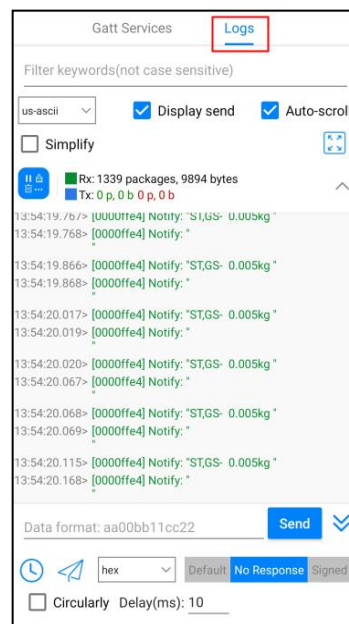
①



②



③

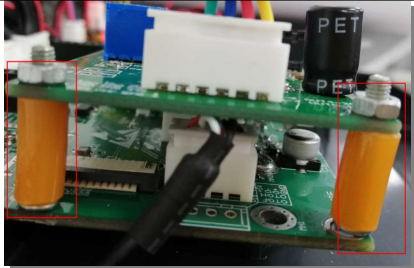
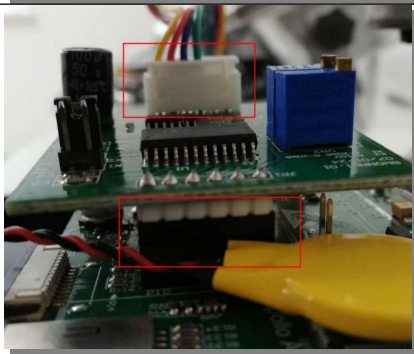
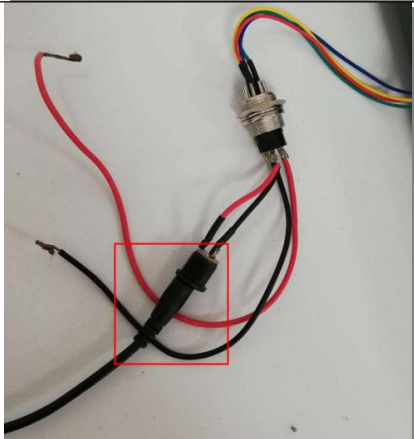


④

11.7 Analogue Module (Optional)

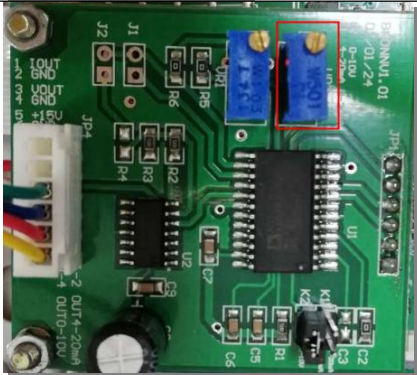
The analogue module includes two types, they are 0~10V and 4mA~20mA

11.7.1 Installing the module

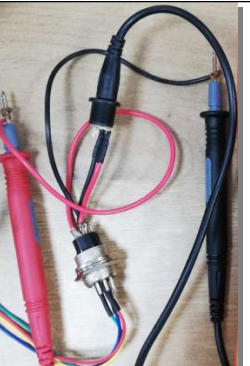
1 Remove the four screws at the rear side of the indicator and open the indicator housing	
2 Attach 2 screws with nuts and spacers to the analogue module board	
3 Connect analogue module board with main board 4 Connect the white connector to the relevant sockets on the board	
5 Connect the indicator to the power supply 6 Connect the additional power supply (12V/500mA) to the analogue module	

11.7.2 Connecting the module

The following steps used for testing the module (0~10V) connection.

1 Connect the meter to the analogue module	
2 Unload weighing plate, The reading value should show ~ 0 V 3 If shows incorrect value, it allows to readjust VR 1 to correct by using screw driver 4 Load weighing plate with maximum load The reading value should show ~ 10 V; 5 If shows incorrect value, it allows to readjust VR 1 to correct by using screw driver	
6 Remove the load from the weighing plate; the reading value should be ~ 0 V; this means that the analogue module has been connected correctly	

The following steps used for testing the module (4mA~20mA) connection.

Connect the meter to the analogue module	
---	--

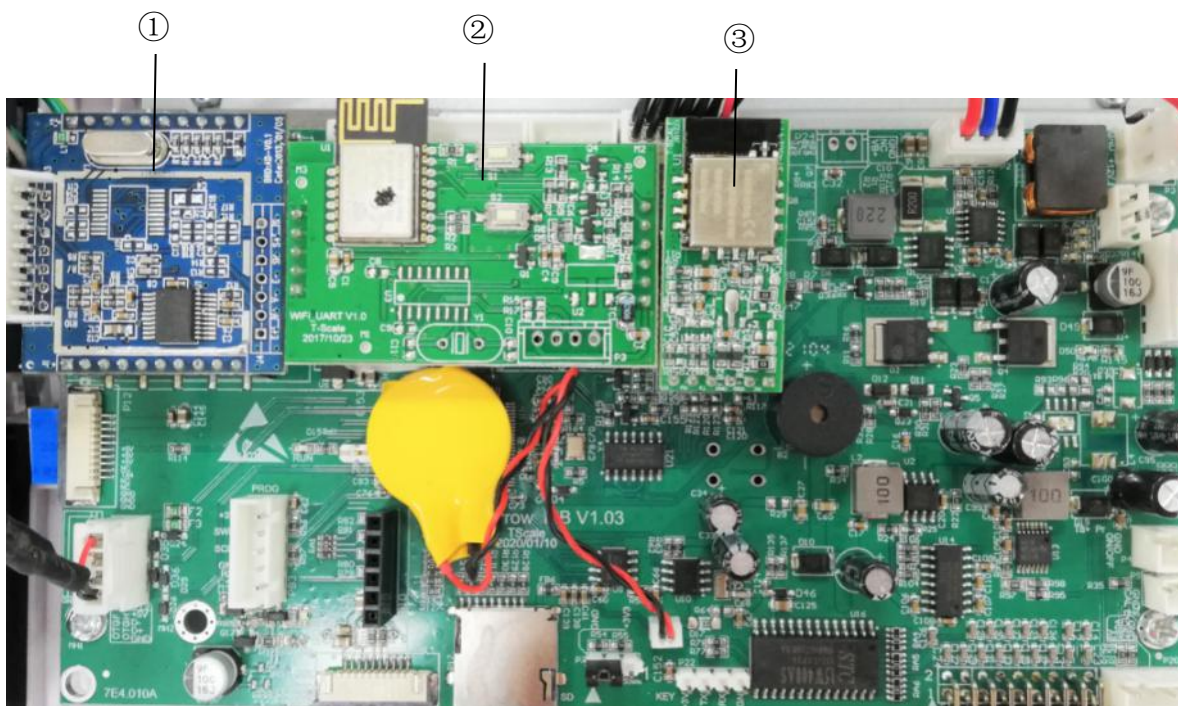
- 1 Unload weighing plate, The reading value should show $\sim 4 \text{ mA}$
- 2 If shows incorrect value, it allows to readjust VR 1 to correct by using screw driver
- 3 Load weighing plate with maximum load
The reading value should show $\sim 20 \text{ mA}$;
- 4 If shows incorrect value, it allows to readjust VR 1 to correct by using screw driver

Note: The jump pin should change to K1, and the wire connection should interchange as per the picture



Remove the load from the weighing plate; the reading value should be $\sim 4 \text{ mA}$; this means that the analogue module has been connected correctly

11.8 WIFI Communication (optional)



- ① Second platform module
- ② WIFI module
- ③ Bluetooth module

11.8.1 WIFI module Installation

- 1 Remove the screws from the indicator housing
- 2 Open the housing
- 3 Insert the WIFI module (②) into the main board

11.8.2 WIFI Setting

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

2 Press  key to select **5.INTERFACE**, Press  Key to enter.

3 Press  key to select **3.WIFI**.

4 Press  Key to enter WIFI setting.

5 Press  key to select ON option

6 Press  key to select 2.PASSWORD Use the number keys to enter the network password that needs to be connected (Press  key to select the specific characters in turn)

7 Press  key to select 3.Search and confirmed by pressing  Key. The available network will be show Select the network to be connected and confirmed by pressing  Key.

1/1	
INTERFACE	
1.SERIAL	
2.ETHERNET	
3.WIFI	
4.BLUETOOTH	
5.RESET TO DEFAULT	

1/1	
WIFI	
1.ON/OFF	ON
2.PASSWORD	*****
3.SEARCH	
4.IP ADDRESS	10.5.52.252
5.MASK	255.255.255.0
6.GATEWAY	10.5.52.1

1/1	
WIFI	
1.ON/OFF	ON
2.PASSWORD	*****
3.SEARCH	
4.IP ADDRESS	10.5.52.252
5.MASK	255.255.255.0
6.GATEWAY	10.5.52.1

1/1	
WIFI	
IK_2.4G	
T-Scale	
GUEST_2.4G	
GUEST_2.4G	
T-Scale	
Find	

- 8 The trying indicator will be show on the left top corner of display

trying	1/1
WIFI	
IK_2.4G	
T-Scale	
GUEST_2.4G	
GUEST_2.4G	
T-Scale	
Find	

- 9 Once connected , The connect indicator will be show on the left top corner of display

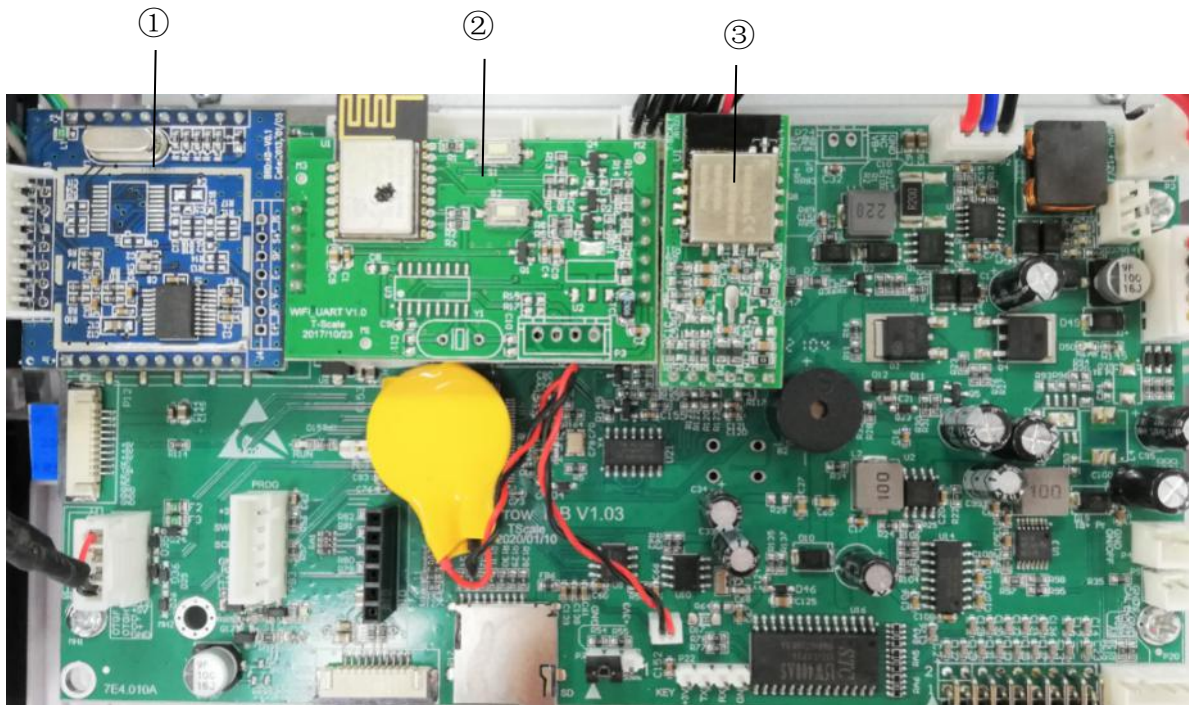
connect	1/1
WIFI	
IK_2.4G	
T-Scale	
GUEST_2.4G	
GUEST_2.4G	
T-Scale	
Find	

- 10 Press  key to back to WIFI setting,the DHCP IP address will be show on the display

	1/1
WIFI	
1.ON/OFF	ON
2.PASSWORD	*****
3.SEARCH	
4.IP ADDRESS	10.5.52.81
5.MASK	255.255.255.0
6.GATEWAY	10.5.52.1

- 11 The WIFI setting is complete,now you can run TTC back office software for next operation.

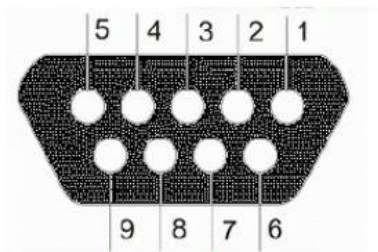
11.9 Second Platform (optional)



- ① Second platform module
- ② WIFI module
- ③ Bluetooth module

11.9.1 Second platform connection

9pin Connector



Second platform module



Connect the dual load cell cables to the terminal as shown below.

9 Pin	Connection
1	Excitation +
2	Sense +
3	Shield
4	Sense -
5	Excitation -
6	NC
7	Signal -
8	Signal +
9	NC

7 Pin	Connection
1	Signal -
2	Signal +
3	Shield
4	Excitation -
5	Sense -
6	Sense +
7	Excitation +

11.9.2 Second platform module Installation

- 1 Remove the screws from the indicator housing
- 2 Open the housing
- 3 Insert the Second platform (①) into the main board

11.9.3 Second platform setting

- 1 Press  key to enter the main menu.

- 2 Press  key to select **6.SERVICE** ,
Press  Key to enter;

1/1
MAIN
1.SYSTEM SETTINGS
2.ADVANCED SETTINGS
3.PRODUCT INFO
4.PRINT,REPORTS&DATA
5.INTERFACE
6.SERVICE

- 3 Press  key to select **3.CALIBRATION PARAMETERS**

1/1
SERVICE
1.VERSION INFO
2.SYSTEM SERVICE
3.CALIBRATION PARAMETERS
4.UPDATE SOFTWARE
5.HARDWARE TEST
6.RESET ALL

- 4 Press  key to enter;

1/1	
CALIBRATION PARAMETERS	
1. APPROVAL TYPE	NOT APPROVED
2. SHOW SCALE PROPERTIES	
3. CALIBRATION UNIT	
4. SCALE 1	
5. SCALE 2	

- 5 Press  key to select **5.SCALE 2**, Press  key to enter;

1/1	
SCALE 2	
1. ON/OFF	ON
2. SCALE RANGE SETTING	
3. CALIBRATION	
4. LAST CALIBRATION	
5. INTERNAL COUNT	

- 6 Press  key to turn on the second platform

- 7 Press  key to select 2.SCALE RANGE SETTING for second platform and confirmed by pressing  key

- 8 Press  key to select 3.CALIBRATION ,once complete,scale will be restart and come to normal weighing mode, the second platform indicator will be on

 0 kg 0.000 kg		Max 15kg Min 20g d=1g Tare 0.000 kg Gross 0.000 kg	
PLU: Product: Count: 0 Total: 0.000 kg		0 % 0 Max	

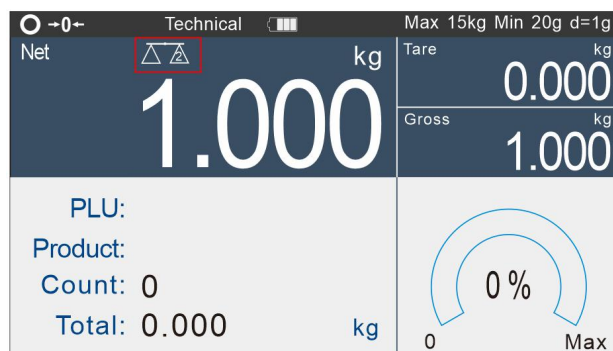
- 9 Press and hold  key to change the local scale to remote scale.



local scale



remote scale



12.MAINTENANCE

12.1 Preventive Maintenance

- 1 Switch off and unplug the device from the mains before cleaning.
- 2 Do not open the device during cleaning.
- 3 Make sure that no fluids get inside the device.
- 4 Do not use organic acid, alkaline solutions, scouring powders or plastic dissolving cleaning agents for cleaning.
- 5 Do not spray directly on the device.
- 6 Avoid strong pressure or scratching the surface with hard, sharp or pointed objects.

12.2 Cleaning housing

- 1 To clean device housing ,using a soft, clean cloth dampened with a mild cleaner or detergent and water.
- 2 After cleaning, plug the scale back into the mains and turn it on.

12.3 Cleaning the printer head

Only available for EW20 model

- 1 Open the printer door.
- 2 Clean the front of the print head with the a cotton swab with alcohol.
- 3 Close the printer door.

12.4 The usage of receipt roll

- 1 Store thermal paper in a dry, dark environment and use the cleaned thermal paper.
- 2 Never scratch the thermal paper with hard objects.
- 3 Do not leave thermal paper with plastic film, rubber or tape for too long.
- 4 Do not stack thermal paper on diazo products or wet products.
- 5 Do not use chemical glue on thermal paper.
- 6 Do not use thermal paper that has been stored for too long.

12.5 Update UI (SD card)

If the display is frozen or it can not be updated via U disk, it's required to update UI by SD card, before updating the UI, you should prepare a 4G TF card and SD card reader.

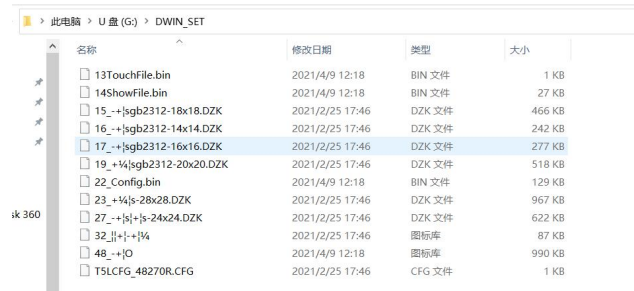
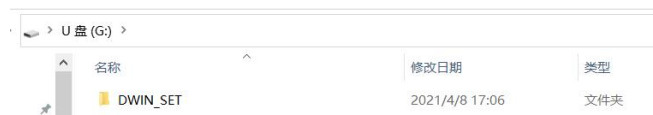


- 1 Unzip DWIN-SET compress file



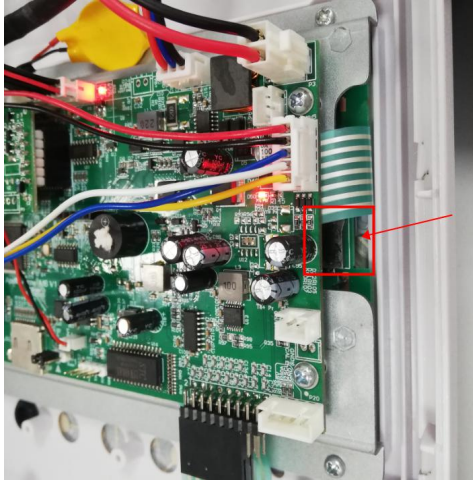
DWIN_SET

- 2 Add DWIN-SET folder to the SD card

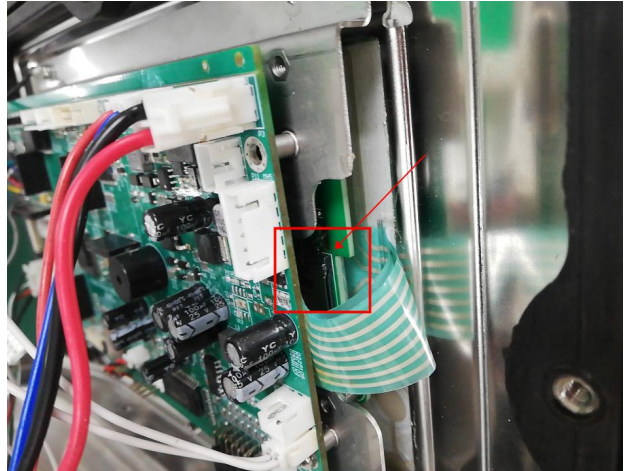


- 3 For 4.3 inch display, it's required to remove the screws from bottom cover by using screw driver to open the top housing

- 4 Insert the SD card to display SD card slot

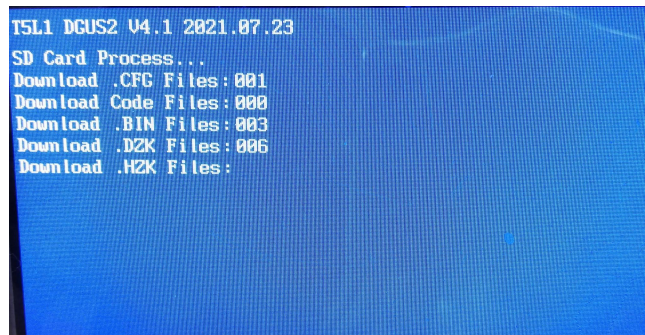


TW20_EW20

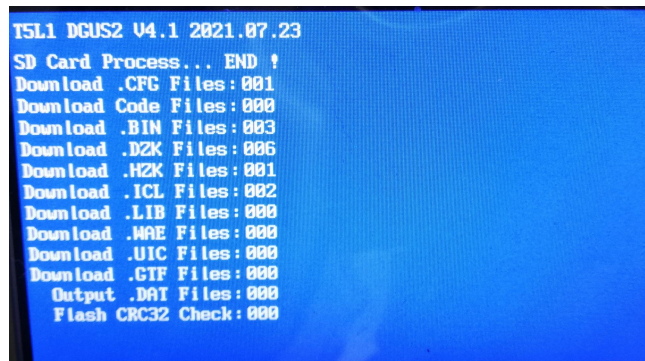


NS20

- 5 Press ON/OFF key to turn on the indicator
- 6 Scale will be show the UI updating process



- 7 Once completed, the display will be show END ,and then come to normal weighing mode.



- 8 Turn off the indicator and remove the SD card

12.6 Update Firmware (TTC)

It allows for updating the application software with Ethernet network in the TTC back office software management.

- 1 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 2 Press  key to select **5.INTERFACE**, Press  Key to enter;

- 3 Press  key to select **2.ETHERNET**.

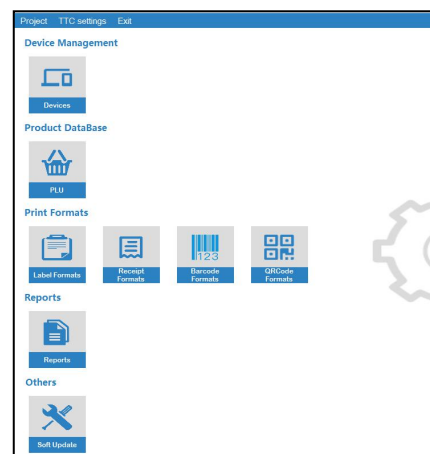
1/1	
INTERFACE	
1.SERIAL	
2.ETHERNET	
3.WIFI	
4.BLUETOOTH	
5.RESET TO DEFAULT	

- 4 Input the IP address . ect as per the network you Set. Please refer to SECTION 11 Communication

1/1	
ETHERNET	
1.IP ADDRESS	10.5.52.252
2.MASK	255.255.255.0
3.GATEWAY	10.5.52.1
4.PHYSICAL ADDRESS	20.00.00.00.00.03

- 5 Press  key 3 times to back to normal weighing mode.

6 Run on the TTC back office software



7 Click [**Device Management**],enter the IP address



8 Click [**Soft Update**],select the new application software to be updated,and click [**Update**]

9 The scale and TTC will be show the updating process.

12.7 Update Firmware (USB)

It allows for updating the application software to the scale via U disk.

It's required to store the firmware to the scale_data folder in the U disk, and the name of firmware should be changed to **firmware.bin**

脑 > KINGSTON (G:) > scale_data				▼	🔄
名称	修改日期	类型	大小		
device.csv	2021-05-25 15:50	XLS 工作表	1 KB		
print_label1.fmt	2021-05-25 15:50	FMT 文件	1 KB		
print_total_receipt1.fmt	2021-05-26 16:11	FMT 文件	1 KB		
product.csv	2021-05-25 15:50	XLS 工作表	1 KB		
record.csv	2021-05-18 11:02	XLS 工作表	1 KB		
firmware.bin	2021-05-20 11:39	BIN 文件	409 KB		

1 Insert the U disk to the USB port

- 2 Press  key to enter the main menu.

1/1	
MAIN	
1.SYSTEM SETTINGS	
2.ADVANCED SETTINGS	
3.PRODUCT INFO	
4.PRINT,REPORTS&DATA	
5.INTERFACE	
6.SERVICE	

- 3 Press  key to select **6.SERVICE**, Press  key to enter;

- 4 Press  key to select **4.UPDATE SOFTWARE**

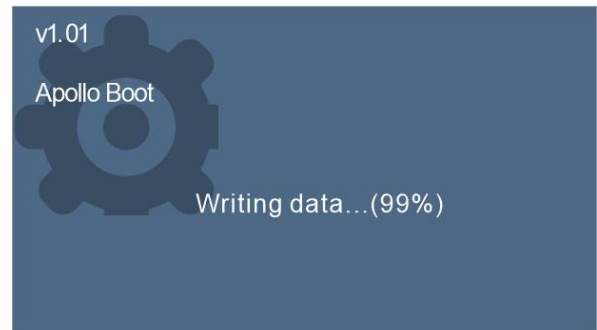
1/1	
SERVICE	
1.VERSION INFO	
2.SYSTEM SERVICE	
3.CALIBRATION PARAMETERS	
4.UPDATE SOFTWARE	
5.HARDWARE TEST	
6.RESET ALL	

- 5 Press  key to enter;

- 6 Press  key to select **2.UPDATE FIRMWARE(USB)**

1/1	
UPDATE SOFTWARE	
1.UPDATE PRINTER (USB)	
2.UPDATE FIRMWARE (USB)	

- 7 Press  key to enter,display will be show the updating process.



12.8 Hardware Test

- 1 Press  key to enter the main menu.
- 2 Press  key to select **6.SERVICE**, Press  Key to enter;
- 3 Press  key to select **5.HARDWARE TEST**, Press  Key to enter;
- 4 Press  key to select the option to be test.

1/1
MAIN
1.SYSTEM SETTINGS
2.ADVANCED SETTINGS
3.PRODUCT INFO
4.PRINT,REPORTS&DATA
5.INTERFACE
6.SERVICE

1/1
SERVICE
1.VERSION INFO
2.SYSTEM SERVICE
3.CALIBRATION PARAMETERS
4.UPDATE SOFTWARE
5.HARDWARE TEST
6.RESET ALL

12.8.1 Keyboard Test

Press the key to be test one by one as per the prompt displayed,once completed the keyboard testing ,display shows successful.

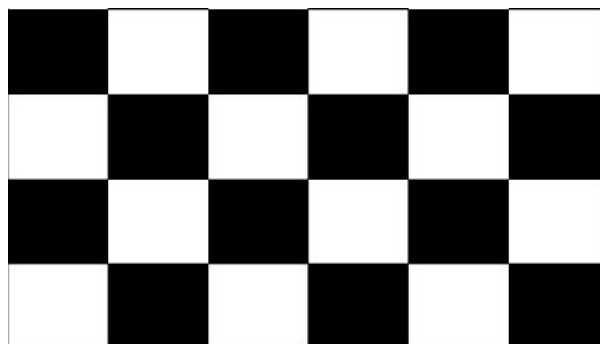
1/2
HARDWARE TEST
1.KEYBOARD TEST
2.DISPLAY TEST
3.RS232 TEST
4.ETHERNET TEST
5.USB TEST
6.LOAD CELL TEST

1/2
KEYBOARD TEST
PRESS "M1" KEY

12.8.2 Display Test

- 1 Press  key to select **2.DISPLAY TEST**, Press  Key to enter.
- 2 A picture black alternating with white appears on the display as follow.
- 3 Press  Key two times ,display test shows successful.

1/2	
HARDWARE TEST	
1.KEYBOARD TEST	
2.DISPLAY TEST	
3.RS232 TEST	
4.ETHERNET TEST	
5.USB TEST	
6.LOAD CELL TEST	



12.8.3 RS232 Test

Interchange the pin 2 and pin 3 wire connection of RS232 port, Press  Key to confirm, a prompt "write data successful" appears.

1/2	
HARDWARE TEST	
1.KEYBOARD TEST	
2.DISPLAY TEST	
3.RS232 TEST	
4.ETHERNET TEST	
5.USB TEST	
6.LOAD CELL TEST	

1/2	
RS232 TEST	
WRITE DATA	SUCCESSFUL

12.8.4 ETHERNET Test

Connect one end of the network cable to the computer and insert the other end into the network interface at rear side of the scale.

Press  Key to confirm

1/2	
HARDWARE TEST	
1.KEYBOARD TEST	
2.DISPLAY TEST	
3.RS232 TEST	
4.ETHERNET TEST	
5.USB TEST	
6.LOAD CELL TEST	

1/2	
ETHERNET TEST	
IP ADDRESS	192.168.1.200
GATEWAY	192.168.1.1
PING	

12.8.5 USB Test

Insert the U disk into the USB port, Press  Key to confirm, a prompt appears as follows.

1/2	
HARDWARE TEST	
1.KEYBOARD TEST	
2.DISPLAY TEST	
3.RS232 TEST	
4.ETHERNET TEST	
5.USB TEST	
6.LOAD CELL TEST	

1/2	
USB TEST	
INSERT USB STICK	OK
WRITE DATA	SUCCESSFULL
READ DATA	SUCCESSFULL

12.8.6 Load cell Test

Connect the indicator with load cell ,if connect successfully, Press  Key to confirm, the display shows the internal counts. If failed, the display show incorrect internal counts value.

1/2	
HARDWARE TEST	
1.KEYBOARD TEST	
2.DISPLAY TEST	
3.RS232 TEST	
4.ETHERNET TEST	
5.USB TEST	
6.LOAD CELL TEST	

1/2	
LOAD CELL TEST	
INTERNAL COUNT	12278

12.8.7 Battery Test

Press  Key to confirm, If the battery is charging full, the display will be show charge level up to 100% and other information.

1/2	
HARDWARE TEST	
1.BATTERY TEST	

2/2	
BATTERY TEST	
AD VALUE	3699
CHARGE LEVEL (%)	100
RESULT	ON POWER

13. ERROR CODES

Error Message	Description	Solution
ERROR 4	Zero setting error	Zero setting range exceeded due to switching on.(4%max) Make sure platform empty.
ERROR 5	Key board error	Check the keys and connector.
ERROR 6	A/D value out of range	Make sure platform empty and check the pan is installed proper. Check the load cell connectors.
Sample low	Percentage Error	Please check input data, must be > 1% of full capacity
	Lack of unit weight	Check unit weight entry data, must be >0.1d
	Lack of sample	Check counting samples entry, must be >20d
ERROR 19	Initialize zero error	Calibration the scale.
ERROR 20	Wireless communication failure	Check wireless settings or change Com settings from the wireless
--UL--	Under load	Minus weight, check the platform and restart or calibrate.
--OL--	Over range	Remove the load. Re calibrate
BAT LOW	Low battery indicator	Please charge the battery

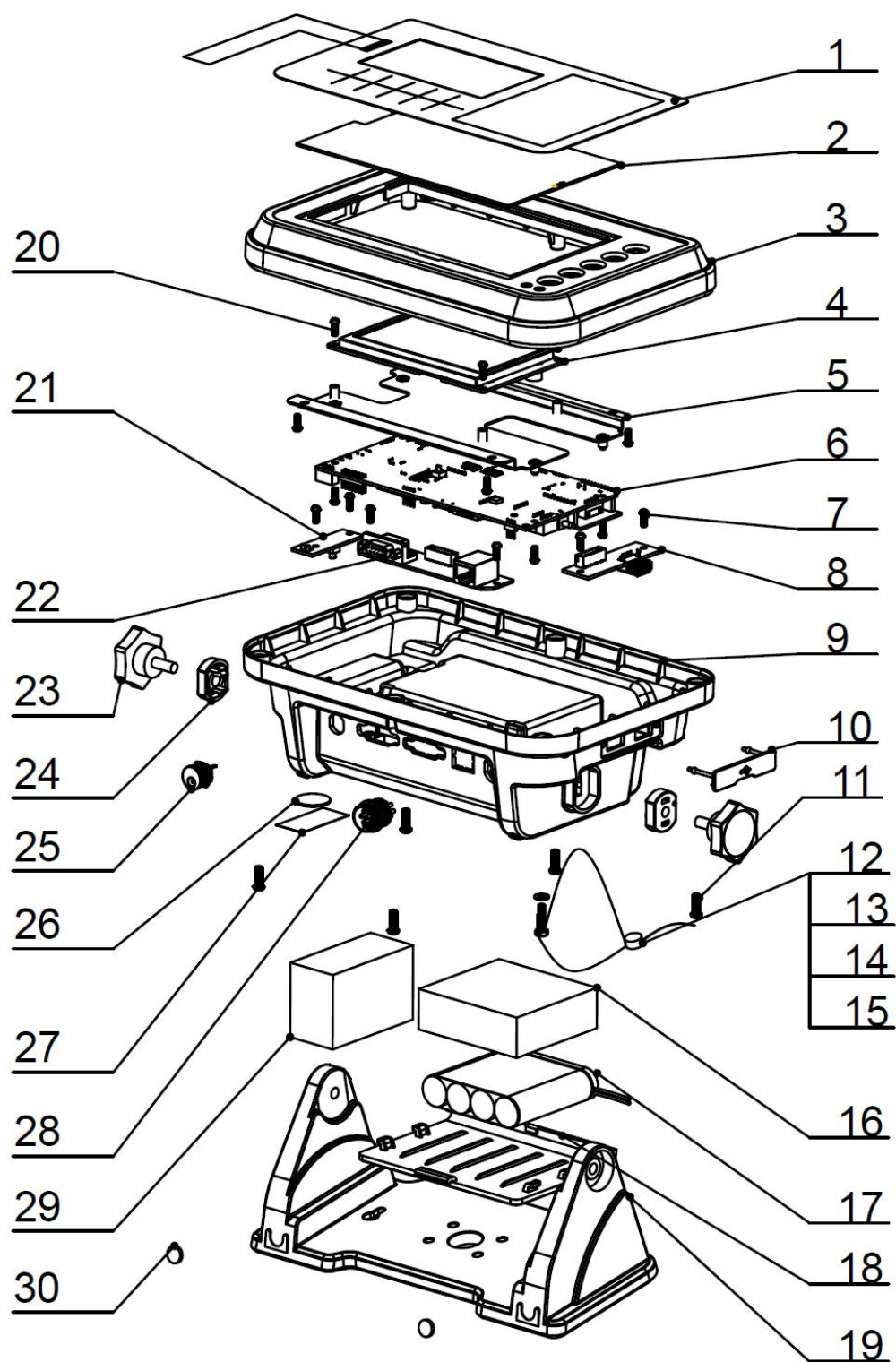
14.TROUBLE SHOOTING

Problem	Possible cause	Common solutions
Cannot turn on power	Mains power is turned off Power supply is not plugged in Power supply faulty Internal battery is not charged Display is turned off	Check power switch is turned on, and power LED is working. Verify the voltage going to the scale matches the power supply labels on the power module or scale.
Display is unstable	Air variation Pan is in contact Sample is moving (animal weighing) Vibrations from table Dramatic Temperature changed Power supply / battery faulty	Verify the scale is in an acceptable location and on a good table / surface. Verify the power supply is correct for the scale.
Weight value incorrect	Calibration error, Re calibrate Linearity error, Linearity calibrated with inaccurate weights Balance not leveled some materials between the sample and cover Wrong weighing unit displayed	Calibrate again, pay attention to the test weight used, the stability of the scale, and the required weighing unit. If it's required do the linear calibration. Check pan is installed correctly. Verify installed in an acceptable location.
Cannot use Full Capacity	Overload Stopper touching pan support or bottom of the load cell Transportation lock not removed, A/D circuit problem, Parameters set incorrectly, Load Cell or mechanics Damaged	Verify any objects under the pan or load cell, transporting lock, and verify pan installation. Check the weighing units used.
Not Linear	Overload stopper touching, Load cell or mechanics damaged A/D damaged	Verify any objects under the pan or load cell, transporting lock, and verify pan installation. Re calibrate and linear calibrate with ideal standard weights
Off Center Loading error	Adjust mechanism. Overload Stops not correct. Load Cell damaged	Verify any objects under the pan or load cell, transporting lock, and verify pan installation. Ensure load cell fixed correctly.
Battery will not charge	Mains voltage not present or too low Charging circuit failure Battery Failure	Check power supply voltage is correct. Verify the batteries are rechargeable types and charging voltage getting proper..

Disconnect AC adapter will turn off power	Battery low	Verify the batteries are rechargeable types and charging voltage getting proper. Plug AC adapter to charge battery. Replace battery
--	-------------	---

15. EXPLODER DRAWING

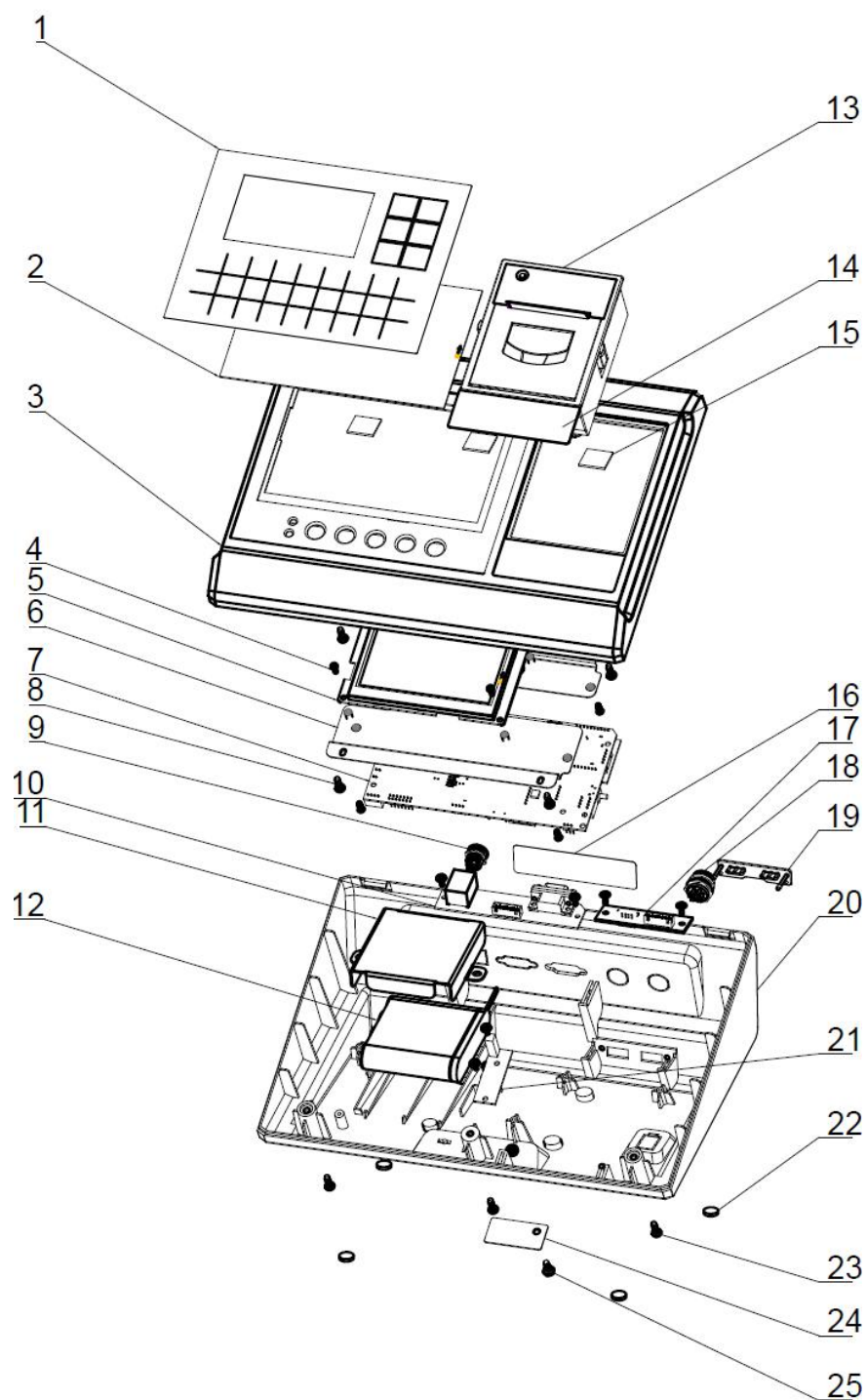
TW20



Part Lists

No.	Item	Spec.
1	Overlay	1
2	Display acrylic board	1
3	Top cover	1
4	4.3"Color screen	1
5	Display fixing plate	1
6	Mainboard	1
7	"+"screw	8; M3*8
8	USB board	1
9	Bottom cover	1
10	USB Rubber cover	1
11	"+"screw	5; M4*12
12	Ø4 Flat washer	1
13	Seal bolt	1
14	Seal wire	1
15	Seal screw	1;M4*16
16	Foam1	1
17	Lithium battery	1
18	Battery cover	1
19	Support	1
20	"+"screw	8;M3*6
21	Calibration switch board	1
22	Interface board assembly	1
23	Hand screw	2;M6*15
24	Bracket fixed	1
25	Adapter jack	1
26	Sealed plastic	1
27	Self destroy label	1
28	7 pin air connector	1
29	Foam2	1
30	Rubber mat	2

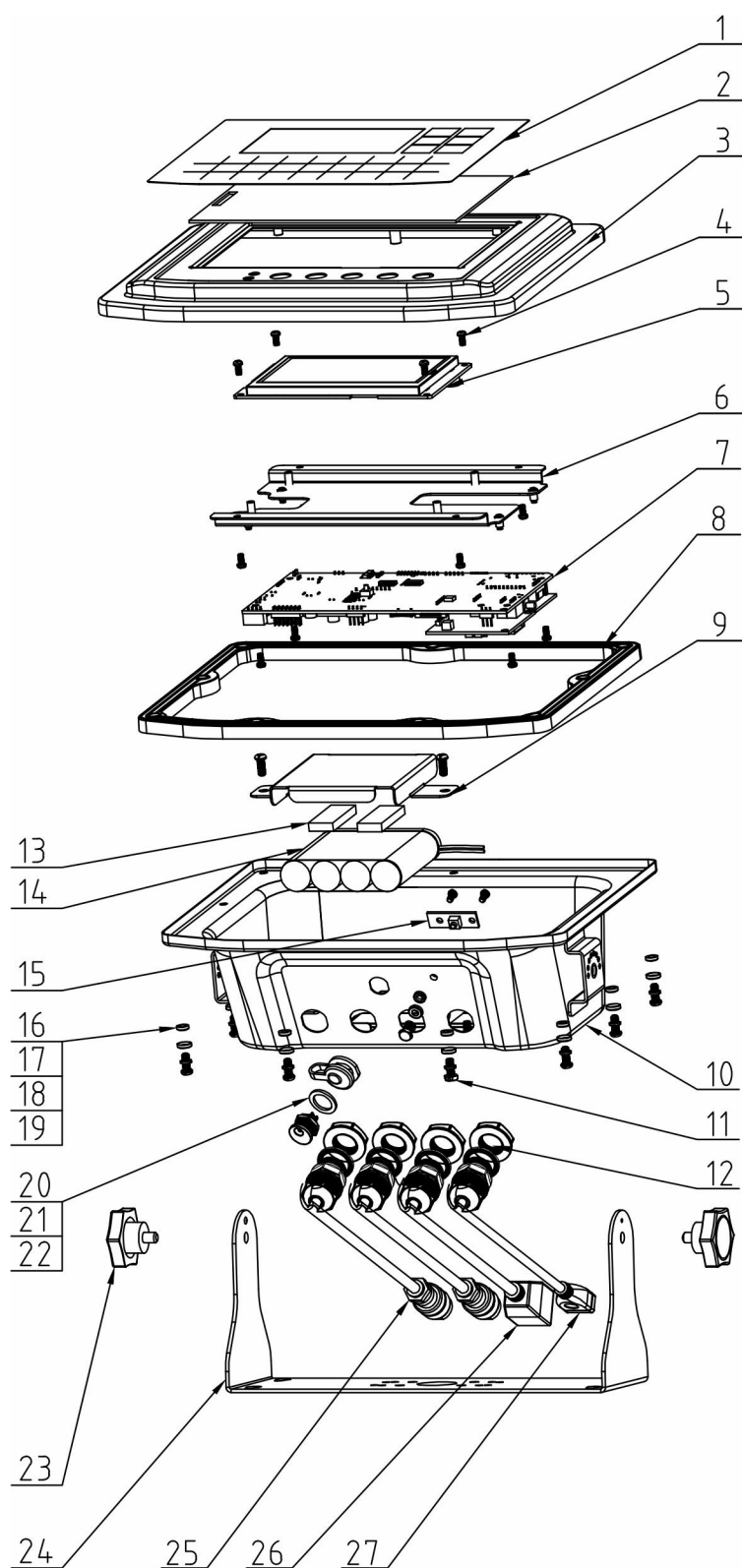
EW20



Part Lists

No.	Item	Spec.
1	Overlay	1
2	Display acrylic board	1
3	Top cover	1
4	“+”screw	8; M3*6
5	4.3”Color screen	1
6	Display fixing plate	1
7	Mainboard	1
8	“+”screw	10; ST3*8
9	Adapter jack	1
10	Interface board assembly	1
11	Lithium battery holder	1
12	Lithium battery	1
13	Printer	1
14	Printer overlay	1
15	Fixing base	3
16	Nameplate	1
17	USB board	1
18	7P Air plug	1
19	USB Rubber cover	1
20	Bottom cover	1
21	Calibration switch board	1
22	Ø10x2 Rubber mat	4
23	“+”screw	3; ST4*12
24	Seal cover	1
25	Seal screw	1

NS20



Part Lists

No.	Item	Spec.
1	overlay	1
2	Display acrylic board	1
3	Top cover	1
4	“+” screw	M3*6; 16
5	4.3"Color display	1
6	Display fixed frame	1
7	Main board	1
8	Seal ring	1
9	Battery fixed bracket	1
10	Bottom cover	1
11	Hexagon screw	M4*10; 2
12	waterproof cable gland	M16; 4
13	Foam	2
14	Li battery (option)	1
15	Calibration switch	1
16	“+” screw	M4*10; 11
17	Seal washer	10
18	Rubber gasket cover	10
19	Spring washer	10
20	Adapter jack plug	1
21	Gasket	M12; 1
22	AC adapter jack	1
23	Hand knob	M6*8; 2
24	Indicator bracket	1
25	Air connector	2
26	Lan port cable	1
27	USB cable	2

16. PARTS REPLACEMENT

16.1 Battery Replacement

TW20

- 1 Place the indicator display down on horizontal desktop (1).
- 2 Open the battery cover along the arrow direction (2).
- 3 Take out the foam next to the battery (3).
- 4 Disconnect the lithium battery connector (4).
- 5 Replace the new lithium battery and connect the battery connector.
- 6 Put the foam next to the battery and close the battery cover

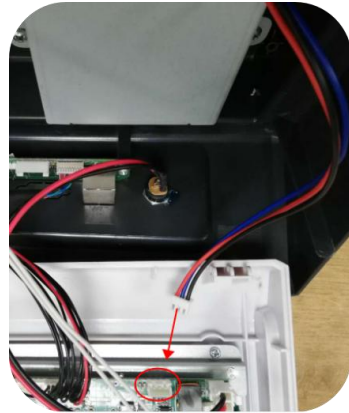


EW20

- 1 Place the indicator display down on horizontal desktop (1).
- 2 Remove the four screws to open the rear housing.
- 3 Take the rear housing down from the front housing .
- 4 Disconnect the battery cable from the main board connector(2).
- 5 Remove the two screws to open the battery cover (3).
- 6 Install a new battery and connect the battery cable to the main board(4).
- 7 Tighten the battery cover by using two screws.
- 8 Put the rear housing back on the front housing, tighten it with four screws.



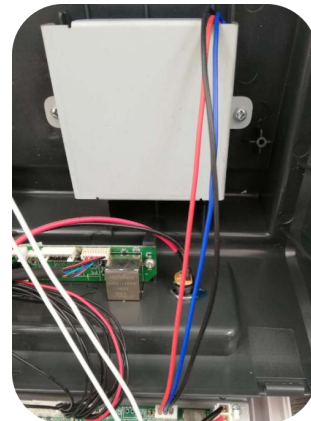
1



2



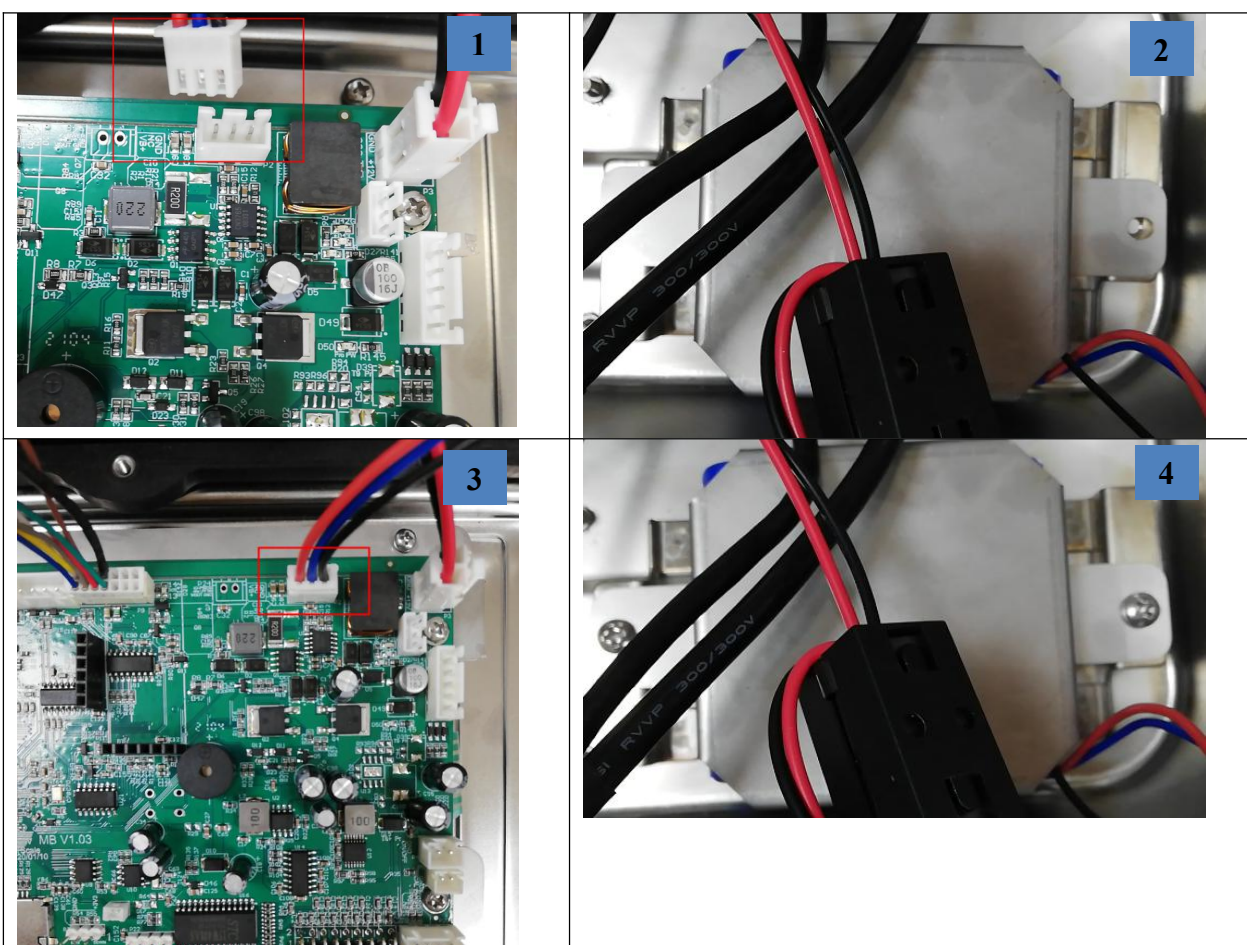
3



4

NS20

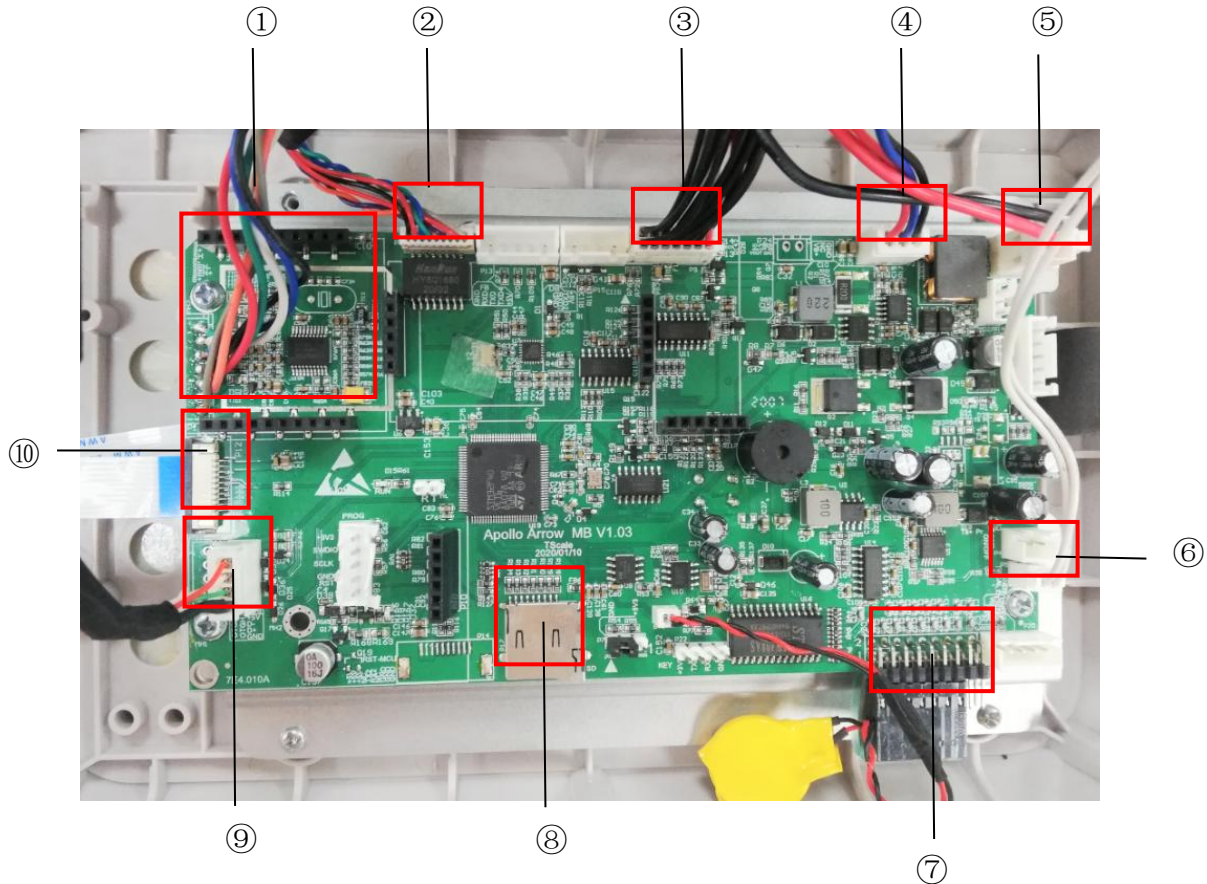
- 1 Place the indicator display down on horizontal desktop .
- 2 Remove the screws of the indicator and open the rear cover.
- 3 Disconnect the lithium battery connector. (1)
- 4 Open the battery cover.(2)
- 5 Replace the new lithium battery and connect the battery connector.(3)
- 6 Close the battery cover.(4)



16.2 Main board Replacement

- 1 Place the indicator display down on horizontal desktop .
- 2 Remove the 6 screws to open the rear housing.
- 3 Take the rear housing down from the front housing .
- 4 Disconnect all cables from the main board
- 5 Release 4 screws at the main board
- 6 Put the rear housing back on the front housing, tighten it with 6 screws.

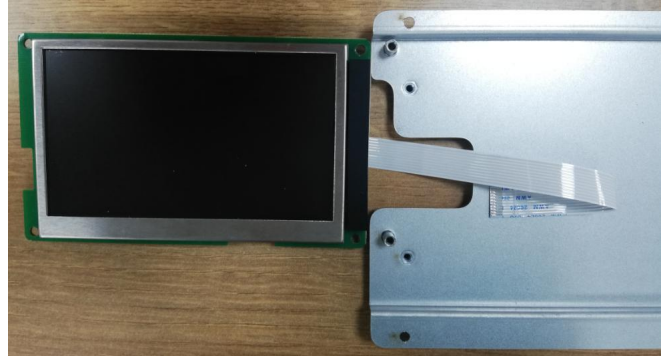
Repeat the Process in **Reverse Order** to Install the New main board.



①	Load cell connector
②	Ethernet cable connector
③	Serial port connector
④	Battery cable connector
⑤	Power In – Cable from the Power Supply to the Main Board
⑥	Calibration switch connector
⑦	Keyboard overlay connector
⑧	SD card slot, N.A
⑨	USB board cable
⑩	Display cable

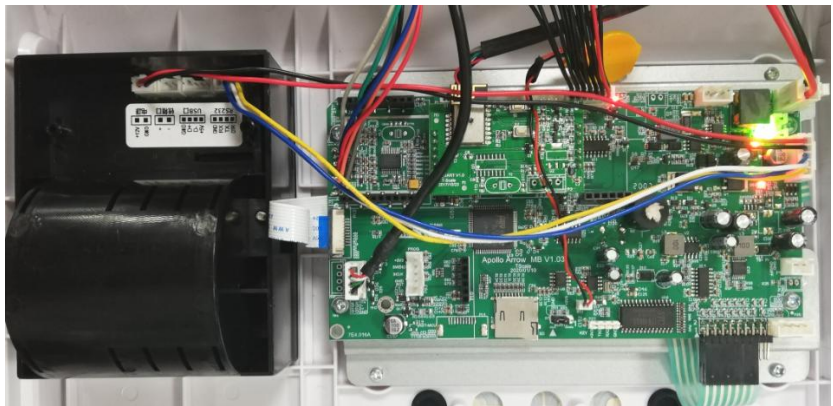
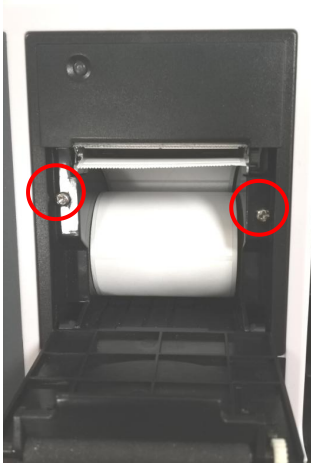
16.3 Display Replacement

- 1 Disconnect keyboard cable and display cable from the main board
- 2 Release 4 screws at main board
- 3 Release 4 screws at display bracket
- 4 Release 4 screws at display



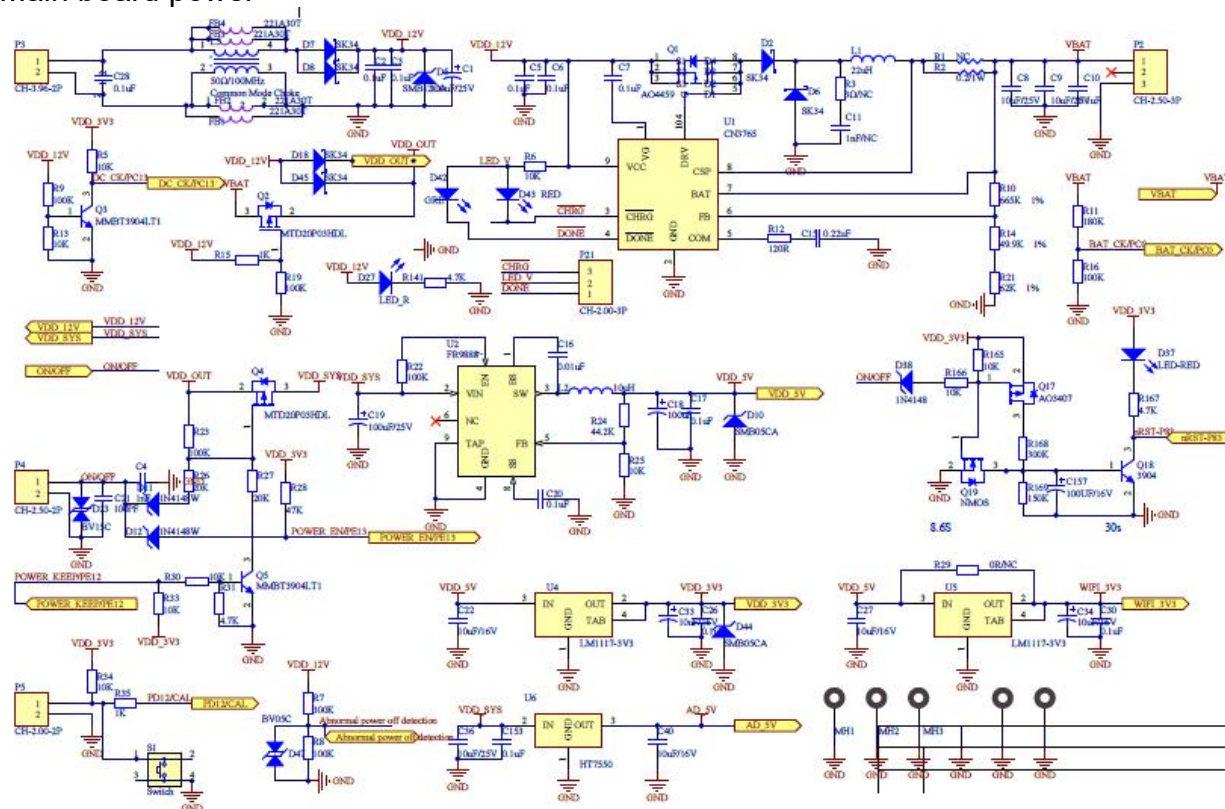
16.4 Printer Replacement (EW20)

- 1 Release the two screws in the printer as shown below
- 2 Disconnect the power cable to printer
- 3 Remove the printer assembly

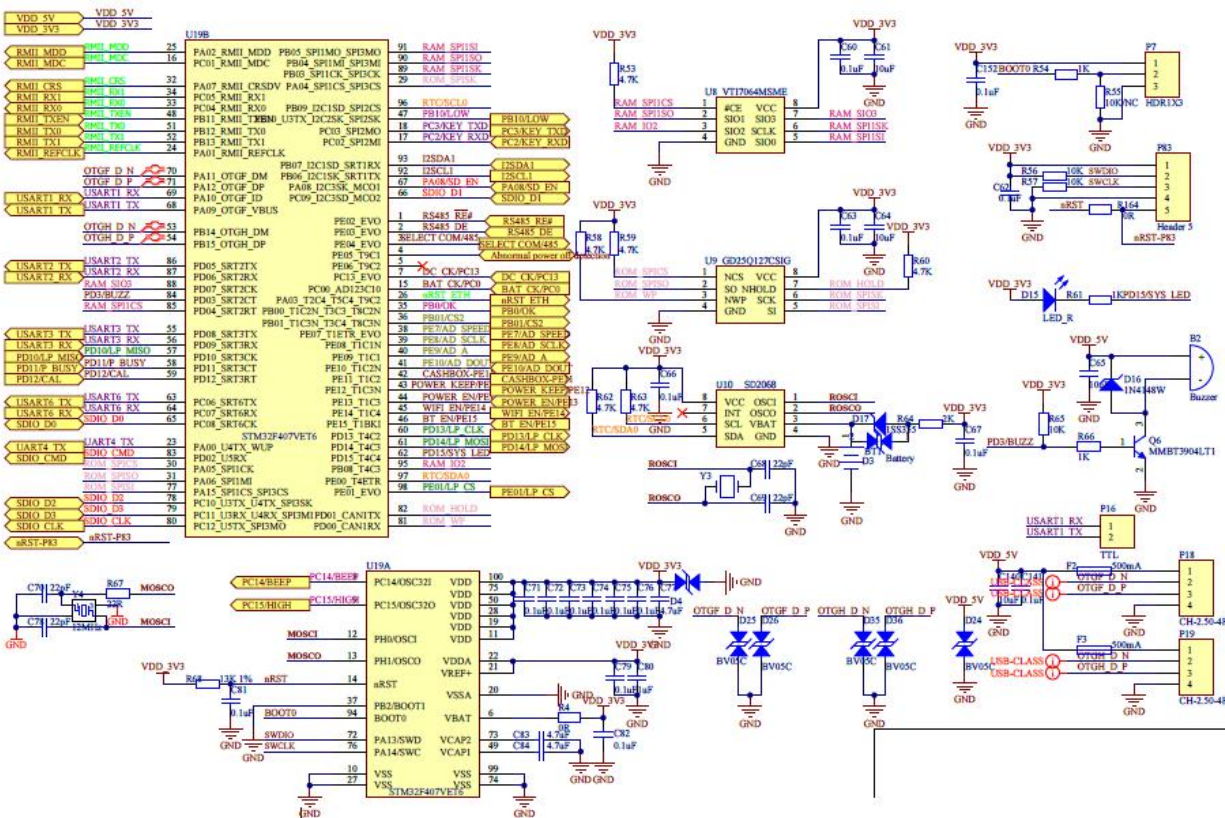


17.SCHEMATIC

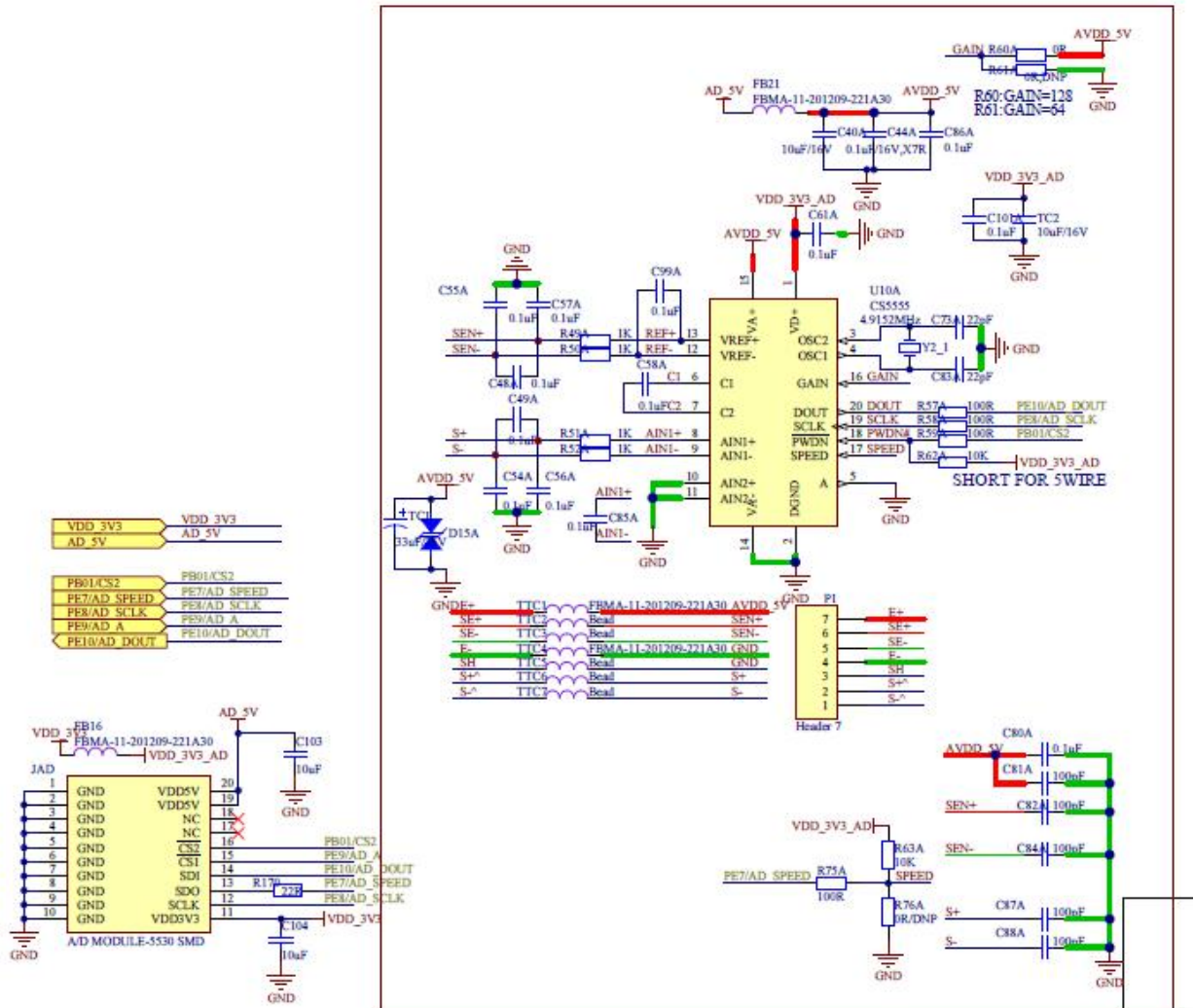
Main board power



Main board MCU



AD



18. TECHNICAL DATA

18.1 General Specification

MODEL	TW20
Max. Divisions	7500e
Weighing Units	kg/g/lb/oz.tj/gj/t
Display	4.3" LCD color display
Load cell excitation voltage	5 VDC
Minimum input impedance	43 ohm
Maximum input impedance	1600 ohm
Housing	ABS Plastic housing
Interface	RS232 ; RJ45 ; USB2.0
Factory Option	RS485; analog output; second platform
Option	WIFI; Bluetooth
Operation Temperature	-10°C - + 40°C / 14°F - 104°F
Power	AC Adaptor 12V/2500mA , Optional rechargeable Lithium Battery 7.4V/5.2Ah
Battery life	Approx.30 Hours
Keypad	36 membrane keys
Dimensions (W x D x H) mm	250x156x192
Net weight	1.5 kg
Gross weight	2.2 kg

MODEL	NS20
Max. Divisions	7500e
Weighing Units	kg/g/lb/oz/tj/gj/t
Display	4.3" LCD color display
Load cell excitation voltage	5 VDC
Minimum input impedance	43 ohm
Maximum input impedance	1600 ohm
Housing	Stainless steel housing
Interface	RS232 ; RJ45 ; USB2.0
Option	WIFI; Bluetooth
Operation Temperature	-10°C - + 40°C / 14°F - 104°F
Power	AC Adaptor 12V/2500mA , Optional rechargeable Lithium Battery 7.4V/5.2Ah
Battery life	Approx.10 Hours
Keypad	33 membrane keys

TW20_NS20_EW20 Series Weighing Indicator Technical Manual

Dimensions (W x D x H) mm	269 x 189 x 100
Net weight	2.5 kg
Gross weight	3.2 kg

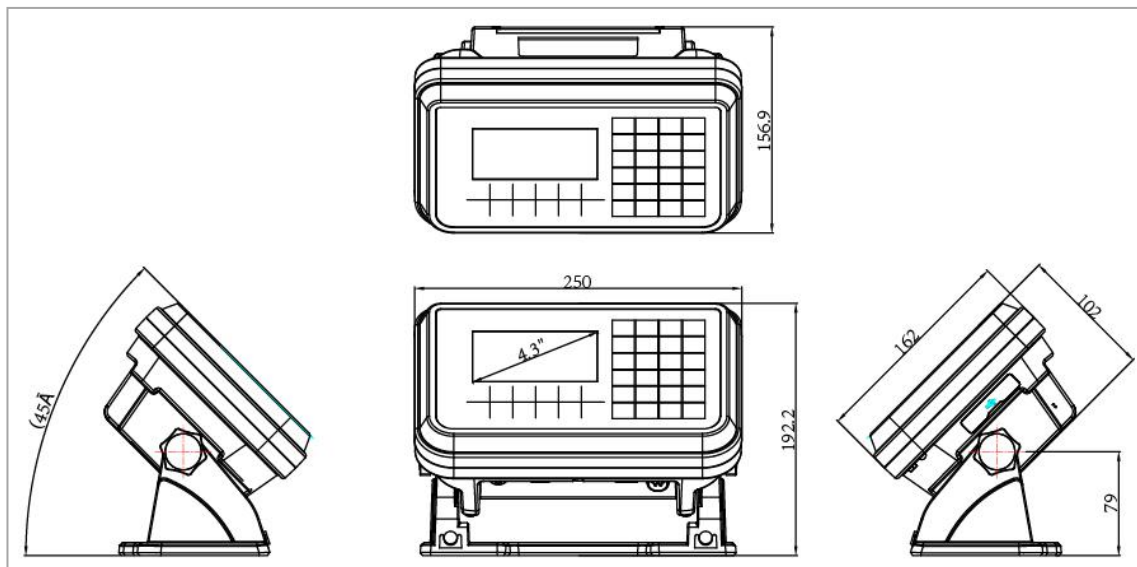
MODEL	EW20
Max. Divisions	7500e
Weighing Units	kg/g/lb/oz.tj/gj/t
Display	4.3" LCD color display
Load cell excitation voltage	5 VDC
Minimum input impedance	43 ohm
Maximum input impedance	1600 ohm
Housing	ABS Plastic housing
Interface	RS232 ; RJ45 ; USB2.0
Factory Option	RS485; analog output; second platform
Option	WIFI; Bluetooth
Operation Temperature	-10°C - + 40°C / 14°F - 104°F
Power	AC Adaptor 12V/2500mA , Rechargeable Lithium Battery 7.4V/5.2Ah
Battery life	Approx.30 Hours
Keypad	33 membrane keys
Dimensions (W x D x H) mm	304 x 205.3 x 143.3
Net weight	1.8 kg
Gross weight	2 kg

18.2 Printer Specification (EW20)

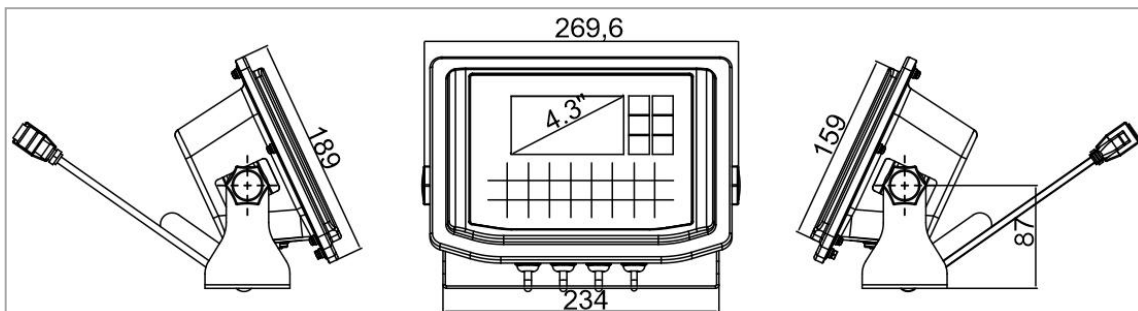
Printing Method	Thermal Dot line printing
Number of dots/line	384
Dots density	8
Printing width (mm)	48 (centered on paper)
Paper width (mm)	58 +0/-1
Paper roll size (mm)	Max outer diameter of roll 60 mm (label & receipt roll)
Printing Resolution	203DPI
Printer Head Life	50kilometer
Printer Speed	90mm/second

18.3 Overall Dimension

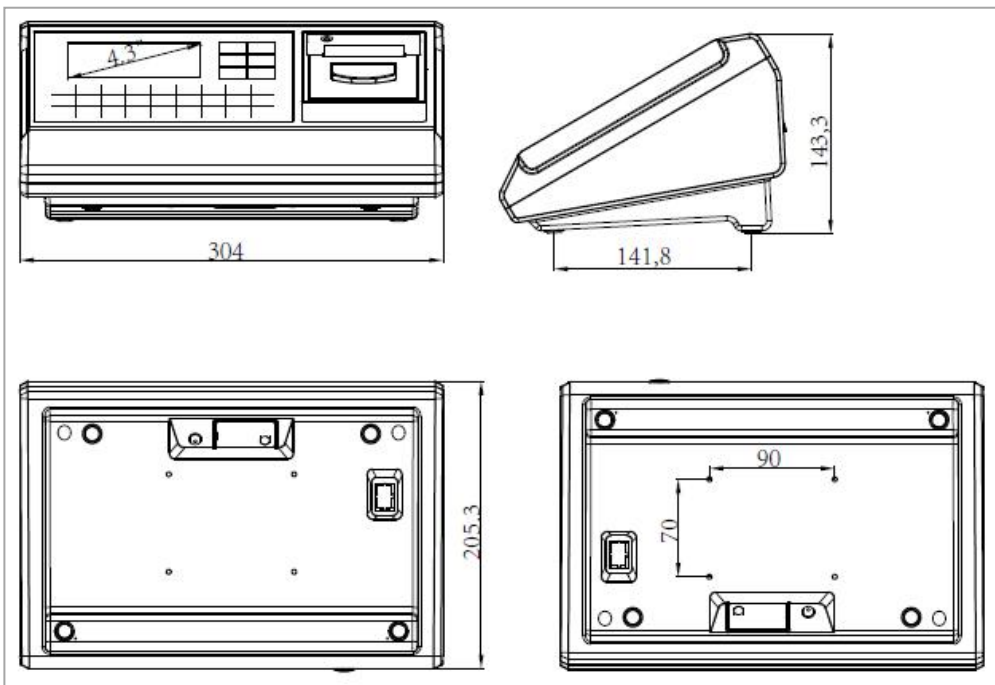
TW20



NS20



EW20





Declaration of Conformity

Manufacturer	TScale Electronics Mfg.(Kunshan) Co., Ltd
Model	TW20_EW20_NS20
Registration No	AT18230EC000312
EMC Directive	2014 / 30 / EU
Applicable Standards	EN 55032: 2015 EN IEC 61000-3-2:2019 EN 61000-3-3: 2013 + A1: 2019 EN 55035:2017

Note: The declaration is only valid if the non-automatic weighing instrument was verified by the manufacturer or with a certificate of conformity issued by a notified body.

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The company was founded in Taiwan in 1967 as Taiwan Scale Mfg Co., Ltd in order to produce Mechanical Weighing Instrument. Today, this privately owned company is recognized worldwide as a leading Electronic Weighing Scale Manufacturer. The core business of TSCALE is the development, manufacture, worldwide sales/marketing and service of electronic weighing instruments.

The TSCALE products

- Medical Scale
- Counting Scale
- Tabletop Scale
- Retail Scale
- Precision Scale
- Platform Scale
- Weighing Indicator
- Crane Scale
- Floor and Pallet Scale
- Accessory
- Software

TSCALE has its manufacturing unit in Kunshan, China, ISO 9001 certified company, **OEM/ODM** partner, more than 20 products have **OIML** certifications from Holland's NMI and Denmark's Delta.

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