VOW/VGW

OPERATION MANUAL

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE OPERATING

TABLE OF CONTENT

1. BEFORE USE FOR THE FIRST TIME

● Thank you for purchasing an UWE product, please read this instruction carefully before start using. You shall find the following items inside the box:

VGW/VOW scale x 1
Switching power adaptor x 1
Operation manual x 1

If you don't find all the items as described above, please contact your dealer for further assistance.

● Place the scale in a stable environment and adjust the adjustable feet to a level position by referring to the bubble level
● The scale is equipped with rechargeable battery, please charge it until the charging indicator turns green to ensure the best battery performance
● Always use factory supplied power adaptor for charging purpose, an unapproved power adaptor may shorten the battery life and further damages the electronic components
● Warm up the scale for 15 minutes before use for the first time
● Make sure the capacity and division setup on the display when switching on is the same as the data plate
● Avoid to use the scale when the environment is with strong wind, vibration and strong magnetic field
● Use it within the recommended temperature range and avoid wet environment
● Recharge the battery immediately when battery status indicator starts flashing
● Use damp cloth to clean the scale if necessary, excessive moisture is prohibited
● When not using, switch off the power and keep the scale in a dry and cool place

2. SPECIFICATION

3000 DIVISIONS - OIML APPROVED

Model No.	Capacity (Max)	Readability (e)
1500g	1500g	0.5g
3000g	3000g	1g
6000g	6000g	2g
15kg	15kg	5g
30kg	30kg	10g

3000 DIVISIONS DUAL RANGE - OIML APPROVED

Model No.	Capacity (Max) W1/W2	Readability (e) e1/e2
3000g	1500g/3000g	0.5g/1g
6000g	3000g/6000g	1g/2g
15kg	6kg/15kg	2g/5g
30kg	15kg/30kg	5g/10g

6000 DIVISIONS - OIML APPROVED

Model No.	Capacity (Max)	Readability (e)
3000g	3000g	0.5g
6000g	6000g	1g
12kg	12kg	2g
30kg	30kg	5g

30,000 DIVISIONS - NON-OIML

Model No.	Capacity (Max)	Readability (e)
3000g	3000g	0.1g
6000g	6000g	0.2g
15kg	15kg	0.5g
30kg	30kg	1g

LCD Digits	VGW: 5 1/2 digits VOW: 6 digits
Power-on Zero Range	±10% of Max

Zero Range	±2% of Max
Tare Range	Full Range Tare
Platter Size	VGW: 230 x 250mm with Stainless Steel Insert VOW: 225 x 320mm with Stainless Steel Insert
Power Source	External AC Adaptor: AC100~240V, DC9V/0.6A Built-in Rechargeable Battery: 6V/4Ah
Operating Temperature	-10°C / 40 ^{o}C (14 ^{o}F / 104 ^{o}F) Non-condensed. R.H.≦85%

3. PANEL AND KEYBOARD
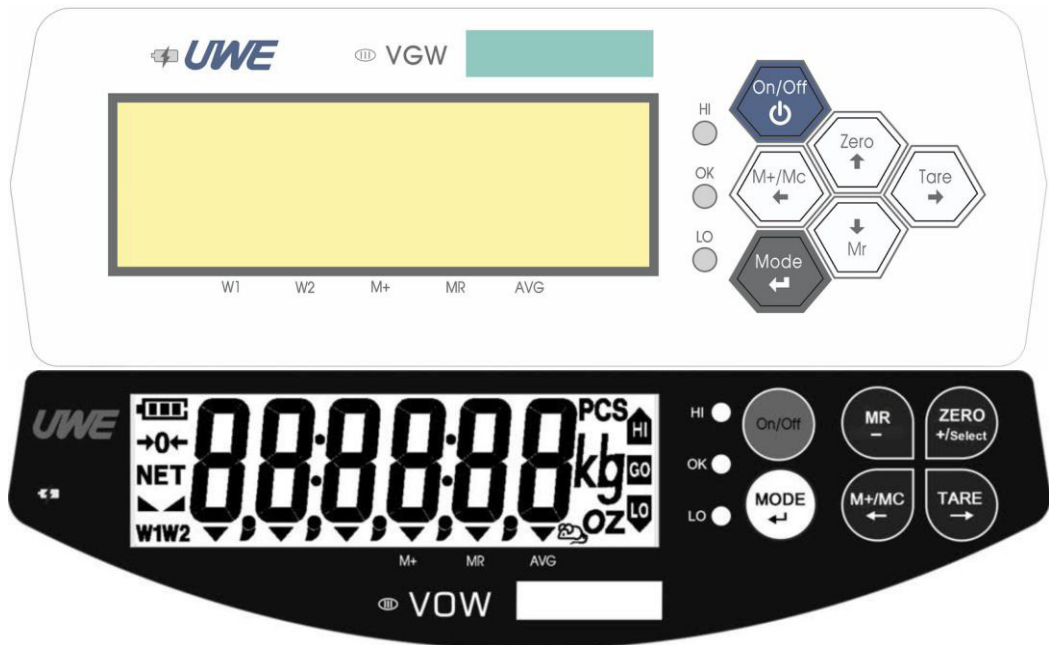
3.1 PANEL

1. ZERO INDICATOR
    It appears when scale is at zero weight status

2. NET INDICATOR
    It appears when tare function is engaged and weight shown is the net weight

3. STABLE INDICATOR
   It appears when scale is in equilibrium state

4. W1W2 INDICATOR
   This indicates the scale is set with dual range, and the weight is within the first range Max1/e1 or within the second range Max2/e2

5. AVERAGE FUNCTION
   This indicator appears when digital motion filtering function is engaged.

6. WEIGHING UNIT
   This indicates the weight unit which the scale is currently measuring:
   A metric unit of kg or g can be set.
   An imperial unit of lb can be set.

7. M+
   This indicator appears when memory contains data.

8. MR
   This indicator appears when value shown on the display is the total saved value.

9. HI-OK-LO INDICATOR
   These indicators notify the user the weighing range of the loads which being placed on platter

10. BATTERY STATUS
    This indicates the power level of the rechargeable battery, and should be charged immediately when the sign starts flashing to prolong the time of rechargeable battery

11. CHARGING STATUS
    Red light indicates AC power is supplied and charging is in process.
    Green light indicates charging completed

3.2 KEYBOARD

ON/OFF	Press this key to turn on the scale, or press and hold this key to turn off the scale
ZERO	Press this key to manually set the display value to zero, please refer to specification for manual zero range
TARE	Press this key to tare the weight off from the platter
MODE	1. Press this key to switch weighing unit from metric to imperial(when this unit is enabled) and to piece counting 2. Press and hold this key to engage sampling function
M+/MC	1. Press this key to save the weighing result to memory 2. Press this key to clear data saved in memory when MR indicator is on
MR	1. Press this key to recall total accumulated weighing result from memory 2. Press this key in piece counting mode for sampling

4 INTERNAL SETTINGS

Below table defines all the internal function, and kindly note some functions are for dealer only. DO NOT try to open the scale or break with the hardware seal when the unit is metrological approved.

DISPLAY	FUNCTION SETTING	ACCESS CONDITION
F0	Zero tracking speed	Dealer only when LOCKED
F1	1. Analog to digital offset value 2. Function key test	Open
F2	1. LCD segment check and software version information2. Adjusting backlight brightness	Open

F3	Scale configuration setup	Dealer only when LOCKED
F4	Auto power off	Open
F5	Transmission Protocol	Open
F6	Digital Motion Filtering	Open
F7	Transmission Mode	Open
F8	Printer selection	Open
F9	Automatic/Continuous tare	Open
F16	Turning on/off real time clock	Open
F17	Time and date setup	Open
F18	Buzzer sound	Open
F19	High resolution verification mode	Dealer only when LOCKED
F20	Manufacturing site gravity value setup	Dealer only when LOCKED
F21	Final destination gravity value setup	Dealer only when LOCKED
F38	Backlight timing	Open
F100	Reset to factory default	Dealer only when LOCKED

4.1 FUNCTION DEFINITION AND SETUP

- Press and hold **TARE** and press ON/OFF, display shows **F1**
- Use **TARE** (next) or **MR** (previous) to scroll through the internal setting menu, and press **MODE** to enter the setting.
- Use **ZERO** in sub-setting menu to scroll through available options. Press **MODE** key to confirm and exit.
- Press **ZERO** and display will show **SAVE**. If setting was changed, user can either press **MODE** for yes to save the changes made or press **ZERO** for not to save the changes.

CAUTION: BEFORE LEAVING THE INTERNAL SETTING, ALL CHANGES MUST BE SAVED OTHERWISE THE SCALE WILL STILL FUNCTION UNDER THE OLD SETTING.

Offset Value & Function Key Test (F1)
Under this function scale will show the offset value and be able to check the function of each key.

LCD Segment Check and Backlight Adjustment (F2)
Under this function all segments and indicators will be in flashing mode as well as backlight for user to check if function properly.
Press **ZERO** to adjust the backlight brightness. There are five settings, press **MODE** to confirm setting. Backlight brightness also has 5 level selections for optimal viewing.

Auto Power Off (F4)
Under this function, user can select auto power off timing among 5 minutes, 10 minutes, 15 minutes and 20 minutes or disable the function. There are 5 settings, the numerical digit means the minutes to power off when scale idles. **ALL.on** means the Scale will never automatically turn off unless manual intervention.
5.oFF -> 10.oFF -> 15.oFF -> 15.oFF -> ALL.on

Transmission Protocol (F5)

Under this function, user can select the transmission interface, speed, mode and format for RS-232 and also the communication protocol.

When display shows **F5**, press **MODE** to enter the function
First level selection: nonE / rS232
Second level selection: bAUd / ForMt / trAnS / ProtL
Selection under **bAud**: 2400 / 4800 / 9600 / 19200 / 38400 / 115200bps
Selection under **ProtL**: n.8.1 / E.7.1 / o.7.1 / E.8.1
Selection under **trAnS**: MAnU / Auto / StrM
Selection under **ForMt**: SEr.1 / SEr.2
use **MODE** key to enter, **ZERO** to change, **MODE** key to confirm

Terminology:

nonE: no data output   **rS232**: data output through RS-232
bAud: baud rate   **ProtL**: transmission protocol
trAns: transmission type   **ForMt**: transmission format
Auto: automatic transmission   **StrM:** stream transmission
MAnU: manual transmission

Digital Motion Filter (F6)

Under this function, user can enable digital motion filtering function if the weighing environment is unstable. User also can engage animal weighing function for maximum performance. The scale is equipped with 3 filter speeds: Filt 0 -> Filt 1 -> Filt 2

Transmission Mode (F7)

StrM: stream mode, data continuous sending when stable (**ForMt** only has **Ser.1** available)

```
ST, NT,          100.01kg
ST, NT,-         100.01kg
…………………………….
```

Manu: manual mode, data sends once when manually pressing keypad (press **M+** to send one data, press **MC** to clear memory and send total value)
● When format is set at **Ser.1**-
Press **M+** to send single data (as **Ser.1 ForMt**), and will not print total value.

NOTE:
1. When tare function is not engaged, net weight equals to gross weight, so RS-232 will transmit data in NET status.

● When format is set at **Ser.2**-
Press **M+** to send single data, press **MC** to send total value (as **Ser.2** format)

```
S/N     WEIGHT      UT
1       100.02      kg   H    ←press M+ to print single data
2        99.01      kg   G
3       1210.05     kg   H
4        10.12  kg      L
………………………
--------------------------------
Sum             9876.10kg    ←press MC to print total value
```

Auto: automatic mode, data sends once when weighing result stables
● When format is set at **Ser.1**-
Indicator will automatically send single weighing result when display stables and over 20e, it does not support to print total value.

```
ST, NT,    100.01kg
ST, NT,-   100.01kg
US, GS,    1000.01kg
……………………………
```

● When format is set at **Ser.2**-
Indicator will automatically send single weighing result when display stables, press **MC** to clear memory and print total value (as Ser.2 format)

```
S/N   WEIGHT     UT
```

```
1   100.02      kg   H    ←automatically sends one weighing result when
2   99.01       kg   G    display stables
3   1210.05     kg   H
4   10.12       kg   L
```

```
S/N      WEIGHT        UT
1        100.02 kg     H
2         99.01  kg    G
3        1210.05       kg        H
4         10.12  kg    L
………………………….
------------------------------------
Sum              9876.10kg    ←print total result when MC is pressed
```

● When Real Time Clock function is enabled

When indicator is set at **rtC.on**, date and time information will be included in the RS-232 data stream:

When F7 is set at **Ser.1**

```
2015/04/25      10:30:21      ST, NT, 100.01kg
2015/04/25      10:30:39      ST, NT, 210.00kg
```

When F7 is set at **Ser.2**

```
2015/04/25      10:31:21
S/N       WEIGHT       UT
1         100.02       kg
2          99.01       kg
------------------------------------
Sum       199.03       kg
```

Printer Selection (F8)

Under this function, user can select the peripheral which the scale will be connected to.

PC for computer -> **tEC** for Toshiba TEC printer -> **ArGoX** for Argox printer -> **tSC** for TSC printer -> **SH-24** for 24 columns Dot Matrix printer

Auto Tare & Automatic Continuous Tare (F9)

Under this function, user can enable or disable auto tare function of the first weight, or the consecutive loads place on the platter.

Tr.on (auto tare first weight) **-> tr.Cnt** (auto tare consecutive loads)**-> tr.oFF** (auto tare off)

Turning On/Off Real Time Clock (F16 Optional)
Under this function, user can turn on or off real time clock function.

rtC.on -> rtC.oF

Time and Date Setup (F17)
Use this function to setup year, month and date as well as time in 24 hours format.
a. display shows **Y=XX**
b. Press **ZERO** for increasing and **TARE** to change flashing digit, and press **MODE** to confirm and entering the next setting
c. Display shows **M=XX**, press **ZERO** for increasing and **TARE** to change flashing digit, and press **MODE** to confirm and entering the next setting
d. Display shows **d=XX**, press **ZERO** for increasing and **TARE** to change flashing digit, and press **MODE** to confirm and entering the next setting
e. Display shows **H=XX**, press **ZERO** for increasing and **TARE** to change flashing digit, and press **MODE** to confirm and entering the next setting
f. Display show **M=XX**, press **ZERO** for increasing and **TARE** to change flashing digit
g. Press **MODE** to confirm to complete the setting

Buzzer Sound (F18)
Under this function, user can select buzzer sound on or off.

Sd.on -> Sd.oFF

Backlight Timing (F38)
Under this function, user can select when to turn off backlight.

There are 5 settings, **bL.on** for always on, **bL.oFF** for always off and **bL.X** means the backlight will automatically turn off after **X** seconds when scale idles.

bL.5 -> bL.10 -> bL.15 -> bL.on -> bL.oFF

5 INSTRUCTION TO USE
VGW/VOW series is easy to use and user friendly. Everyone can start using the scale by following the below steps:

a. The scale is placed on a solid surface
b. Use adjustable feet and referring to the bubble level to make sure scale is in a level position
c. Power on the scale and wait for the counting down
d. Scale is in zero weight status and display showing zero indicator
e. If zero indicator is not on, press **ZERO** to set the display to zero
f. If zero weight status cannot be obtained, change the location and try again

5.1 WEIGHING UNIT SELECTION
Press **MODE** to switch between metric and imperial.

5.2 TARE FUNCTION SETTING
This scale equips with auto tare, continuous tare (please refer to **F9** of internal setting) and manual tare.
a. If auto tare function is enabled, the first weight being placed on platter will be automatically tared
b. If continuous tare function is enabled, each weight being placed on platter will be automatically tared
c. If manual tare is needed, place the load/container on the platter first and press **TARE** to tare off the weight. After weight is tared, **NET** indicator will appear indicating the weight showing on display is net weight

5.2.1   How To Clear Tare Function (auto tare, automatic continuous tare and manual tare)
a. To clear auto tare, remove the initial weight/load from the platter and **NET** indicator will turn off. Press **ZERO** to return to zero weight status if **ZERO** indicator does not appear
b. To clear continuous tare, remove all loads from platter and **NET** indicator will switch off. Press **ZERO** to return to zero weight status if **ZERO** indicator does not appear
c. To clear manual tare, remove everything from platter and press **TARE**, the **NET** indicator will turn off. Press **ZERO** to return to zero weight status if **ZERO** indicator does not appear

5.3 MEMORY FUNCTION
5.3.1   How To Save A Weighing Result To Memory
a. Place a load on the scale and result will show on the display
b. Wait the Stable signal appears then press **M+/MC**

c. Weight result is now saved to memory and **M+** indicator appears indicating memory contains data
d. Remove the load and scale will return to zero weight status
e. Put on another weight and press **M+/MC** to save the next weight

5.3.2   How To Recall A Weighing Result From Memory

a. Press **MR** at anytime to recall the total result saved in memory, **MR** indicator appears indicating the value shown on display is total result
b. Result will remain on display for a short while before return to the previous screen

5.3.3   How To Clear Weighing Result From Memory

Follow the below steps to clear saved data from memory after all transactions completed.

a. Press **MR** first to recall the total saved result from memory, the **MR** indicator will appear
b. Press **M+/MC** immediately to clear the memory and **M+** indicator will turn off indicating there is no data in the memory

5.4 PIECE COUNTING FUNCTION

VGW/VOW equips with simple piece counting function, please follow the below procedure to enable the function and sampling method.

a. Indicator is on and both Zero indicator and Stable indicator are on
b. Press **MODE** until display shows **PCS** as weighing unit on the display
c. Press and hold **MR** and display shows **S: 10**, this means count 10pcs of the same item to put on platter for sampling the average unit piece weight
d. If 10pcs is not the prefer sampling quantity, continue to press **ZERO** and display will show **S:20**, **S:50**, **S:100**, **S:200, S:500 and S:1000**. When the ideal quantity is reached, press **MODE** to confirm and put the sample quantity on platter. Do not load the platter before pressing **MODE** key.
e. Scale will begin the sampling process to calculate the unit piece weight, when the sampling is done scale will show the sampled quantity on display
f. Remove the load and put new batch, display will show the batch quantity.
g. If display shows a value while platter is empty, press **ZERO** to zero off the weight.
h. If a new sampling is needed, press and hold **MR** to start new sampling by following step **c** to **d**.

NOTE:
1. If scale detects the total weight of samples on the platter are smaller than 20d, the PCS sign will start flashing as warning. Press **ZERO** key to change the sampling quantity setting or add more samples until the signal is off.
2. If scale detects the unit piece weight of the sample is smaller than minimum unit weight, the PCS sign will start flashing as warning (unit piece weight must not small than 0.5d). It is recommended using smaller capacity scale for this sampling.
3. When PCS sign flashes, sampling process can still in process but might result errors.

5.5 CHECK WEIGHING FUNCTION
The scale is equipped with check weighing function which allowing users to set high and low limits to quickly checking the weight of each product within the range or not.
a. Indicator is on and both Zero indicator and Stable indicator are on
b. Press and hold **MODE** until display shows **CHK W**
c. Press **MODE** to enter and display shows Hi for hi limit setting, press **ZERO** for value increment and **TARE** for shifting digits. Press **MODE** to confirm and entering low limit setting
d. Display shows **LoW**, press **ZERO** for value increment and **TARE** for shifting digits. Press **MODE** again to confirm and entering alarm setting
e. Display shows **bEEP** first and then showing **bb-no**, press **ZERO** for options **bb-Go**, **bb-H.L**, **bb-Hi**, and **bb-Lo**

| Display	Description
bb-no	No alarm for any weighing result
bb-Go	Alarm activates when weighing result falls within the range
bb-H.L	Alarm activates when weighing result falls outside the range
bb-Hi	Alarm activates when weighing result higher than the range
bb-Lo	Alarm activates when weighing result lower than the range

NOTE:
1. Check weighing function can be engaged under any weighing unit including piece counting mode. When the weighing unit is PCS and check weighing mode is activated, display will show **CHK P** for checking piece.
2. If check weighing limits have been programmed before, display will show **PrEV** for resuming the previous setting or not when entering the setup. Press **MODE** to confirm using the previous setting or **ZERO** to set new limits.

3. To temporary disable check weighing function, press and hold **MODE** again to enter check weighing setup and press **ZERO** when displays **CHK W**
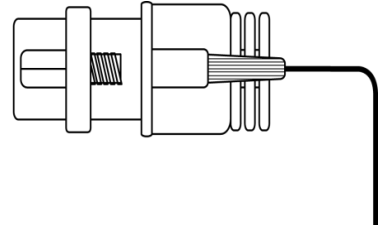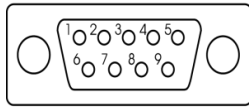
5.6 HOW TO CONNECT RS-232 (D-sub 9 pin female connector)
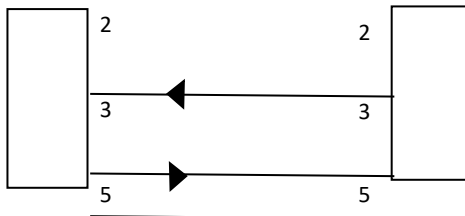Refer to 4.1.8 to setup transmission protocol

J6		D-SUB9
1	←→	3
2	←→	2
3	←→	5

Scale Mainboard

Pin 7 & 8 Shorted internally
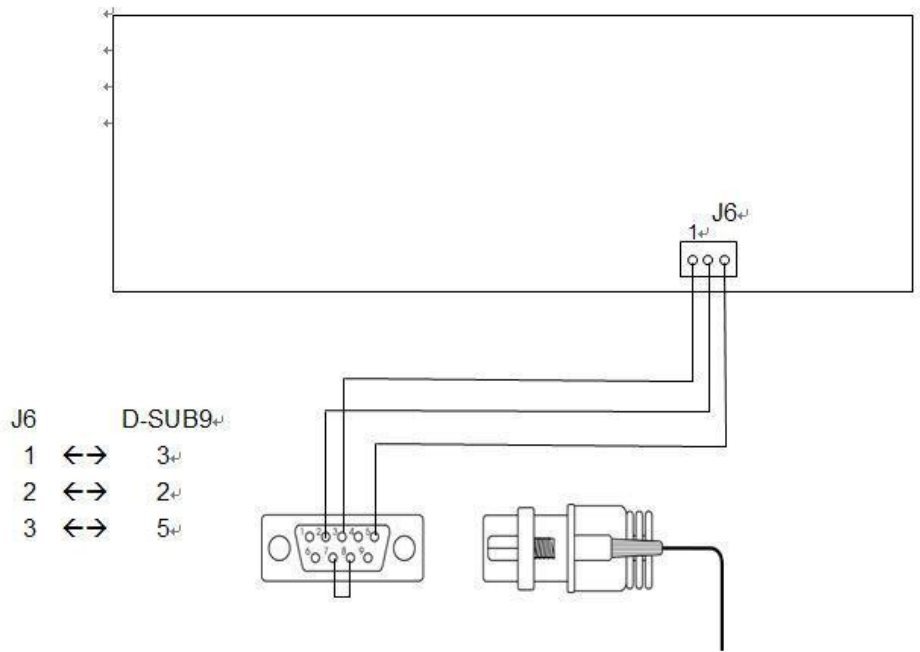
Pin Assignment (PC end)

Pin	Assignment
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC

PC end   Scale end

Only need to connect Pin2, 3 and 5

6. DAILY CARE AND MAINTENANCE

-Do not attempt to open the scale or try to repair except authorized technicians only

-Always aware of the operating environment to avoid excessive moisture and extreme temperature

-Use original factory supplied switching adaptor for charging only

-Recharge the battery immediately when the battery level indicator starts flashing to avoid permanent damage to the rechargeable battery

-Do not put anything on the platter after weighing completes to avoid causing damage to the load cell

-If cleaning is needed, use damp cloth to clean the scale body. Stainless steel platter can be removed for cleaning purpose

-If cleaning agent is needed, please use mild detergent and avoid excessive water. Do not use any chemical or alcohol for cleaning purpose

-If you are uncertain about how to properly maintaining your scale to the optimal condition, please contact your dealer for further assistance

APPENDIX:
ERROR CODES

ERROR CODE	DESCRIPTION	SOLUTION
Err 0	Flash memory accessing error	Change MCU, contact dealer for assistance
Err 1	A/D accessing error	Check A/D, contact dealer for assistance
------	No load cell signal/load cell reading error	Check load cell and connection
Err 2	Load cell wiring error	Check load cell wiring pin assignment
Err 3	Offset value too low/too high	

DISPLAY SEGMENT DEFINITION

A	B	C	D	E	F	G	H	I	J	K	L	M

N	O	P	Q	R	S	T	U	V	W	X	Y	Z

0	1	2	3	4	5	6	7	8	9			