

# **VOC**OPERATION MANUAL

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE OPERATING

# **TABLE OF CONTENT**

- 1. BEFORE USE FOR THE FIRST TIME
- 2. INTRODUCTION
- 3. PANEL AND KEYBOARD
- 4. INTERNAL FUNCTIONS
- 5. INSTRUCTION TO USE
- 6. DAILY CARE AND MAINTENANCE

APPENDIX: ERROR CODES DISPLAY SEGMENT DEFINATION

#### 1. BEFORE USE FOR THE FIRST TIME

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

VGC/VOC scale x 1
Switch 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 recommend 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. INTRODUCTION

# 2.1 SPECIFICATION

# **3000 DIVISIONS**

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**

Model No.	Capacity (Max)	Readability (e)	
	W1/W2	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**

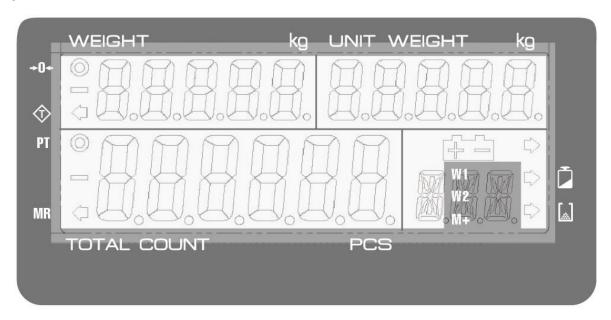
Model No.	Capacity (Max)	Readability (e)
3000g	3000g	0.5g
6000g	6000g	1g
12kg	12kg	2g
30kg	30kg	5g

LCD Digits	VGC: Weight, Unit Weight – 5 digits, Total Count – 6 digits
	VOC: Weight, Unit Weight, Total Count – 6 digits
Power-on Zero Range	±10% of Max
Zero Range	±2% of Max
Tare Range	Full Range Tare
Platter Size	230 x 245mm with Stainless Steel Cover
Power Source	External AC Adaptor: AC100~240V, DC9V/0.6A
	Built-in Rechargeable Battery: 6V/4Ah

Operating	-10°C / 40 °C (14 °F / 104 °F)
Temperature	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. NEGATIVE INDICATOR

It appears when weighing result is below true zero

# 3. NET INDICATOR

It appears when tare function is engaged and weight shown is the net weight

#### 4. PRESET TARE INDICATOR

It appears when a preset tare is engaged

#### 5. W1 INDICATOR

This indicates the scale is set with dual range, and the weight is within the first range Max1/e1

#### 6. W2 INDICATOR

This indicates the scale is set with dual range, and the weight is within the second range Max2/e2

#### 7. M+ INDICATOR

This indicates memory contains data

#### 8. TOTAL INDICATOR

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

#### 9. 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

#### 10. LOW UNIT WEIGHT INDICATOR

This indicator appears when the fix unit price function is engaged, meaning the unit price enter can only be cancelled manually

#### 11. LOW SAMPLE SIZE INDICATOR

This indicator appears when pay & change function is engaged and as a reminder for user to enter the amount receives from customer

#### 12. 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     Enter numeric value and press this key to preset tare
CL	Press this key to clear the unit price entered wrongly, or to escape and returning to weighing mode
M+	Press this key to save the weighing result to memory
MR	Press this key to recall the total accumulated weighing results from memory
WT. SET	Press this key to manually enter the unit piece weight
Q'TY SET	Press this key to enter the number of piece of the load
СНК	Press this key to set upper limit for total quantity count or weight
0~9	Use these numerical keys to key in price and quantity

# **4 INTERNAL FUNCTION**

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. Please contact your dealer for more information.

DISPLAY	FUNCTION SETTING	ACCESS CONDITION
F 0	Zero tracking range	Dealer only when LOCKED
F 1	Analog to digital offset value     Function key test	Open
F 2	<ol> <li>LCD segment check and software version information</li> <li>Adjusting backlight brightness</li> </ol>	Open
F 3	Scale configuration setup	Dealer only when LOCKED
F 4	Auto power off	Dealer only when LOCKED
F 5	Transmission protocol for RS-232/RS-485	Open
F 6	Digital motion filter     Animal weighing	Open
F 7	transmission mode & data format for RS-232/RS-485	Open
F 9	Auto tare	Open
F 16	Turning on/off real time clock	Open
F 17	Time and date setup	Open
F 18	Buzzer sound	Open
F 20	Manufacturing site gravity value setup	Dealer only when LOCKED
F 21	Final destination gravity value setup	Dealer only when LOCKED
F 38	Backlight timing	Open
F 99	High resolution verification mode	Dealer only when LOCKED
F 100	Reset to factory default	Dealer only when LOCKED

#### **4.1 FUNCTION DEFINITION AND SETUP**

#### 4.1.1 LCD Segment Check and Backlight Adjustment

Under this function all segments and indicators will be in flashing mode as well as backlight for user to check if function properly. Backlight brightness also has 5 level selections for optimal viewing.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F 1
- c. Continue pressing TARE until display shows F2
- d. Press **ZERO** to enter, all LCD segments including backlight starts flashing. The display will change between full segment check and software version with buzzer sound for functionality check. Display will also show the software version under this function.
- e. Press **MR** to adjust the backlight brightness. There are five settings, press **ZERO** until the desire brightness is achieved
- f. When ZERO is pressed, display shows F3
- g. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** 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.

#### 4.1.2 Offset Value & Function Key Test

Under this function scale will show the offset value and be able to check the function of each key.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F 1
- c. Press **ZERO** to enter, display will show the offset value in the **TOTAL** window. Press any digit key and display will show **KEYid** and the name of the key you are pressing.
- d. Press **ZERO** to exit the current function, display shows **F2**
- e. Press **ZERO** to enter the next function, or press **M+** to exit.

#### 4.1.3 Digital Motion Filtering

Under this function, scale will compensate the environmental vibration or unstable weighing object and deliver the correct weighing result.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F6
- d. Press ZERO to enter, and display shows FiLtO
- e. Press MR to select the desire setting, there are two levels in the setting
- f. Press **ZERO** to confirm and exit the current function, display shows **F7**

g. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** for not to save the changes.

#### 4.1.4 Auto Power Off

Under this function, user can select auto power off timing among 5 minutes, 10 minutes, 15 minutes and 20 minutes or disable the function.

- h. Scale is off
- i. Press and hold TARE and press ON/OFF, display shows F1
- j. Continue pressing TARE until display shows F4
- k. Press **ZERO** to enter, and display shows **5.off**
- Press MR to select the desire setting. 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
  without manual intervention.
- m. Press **ZERO** to confirm and exit the current function, display shows **F5**
- n. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** for not to save the changes.

#### 4.1.5 Backlight Timing

Under this function, user can select when to turn off backlight.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F38
- d. Press **ZERO** to enter, and display shows **bL.10**
- e. Press **MR** to select the desire setting. There are 3 settings, **bL.on** for always on, **bL.oFF** for always off and **bL.10** means the backlight will automatically turn off after 10 seconds when scale idles.
- f. Press ZERO to confirm and exit the current function, display shows F99
- g. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** for not to save the changes.

#### 4.1.6 Buzzer Sound

Under this function, user can select buzzer sound on or off.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F18
- d. Press **ZERO** to enter, and display shows **Sd.on**

- e. Press MR to select between Sd.on or Sd.oFF
- f. Press ZERO to confirm and exit the current function, display shows F19(or Fx)
- g. Press ZERO to enter the next function, or press M+ to exit. When M+ is pressed, display will show SAVE, user can either press ZERO for yes to save the changes made or press CL for not to save the changes.

#### 4.1.7 Auto Tare

Under this function, user can enable or disable auto tare function of the first weight or continuous taring the weight.

- a. Indicator is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F9
- d. Press **ZERO** to enter, and display shows **tr.off**
- e. Press MR to select between tr.on or tr.oFF
- f. Press ZERO to confirm and exit the current function, display shows F16(or Fx)
- g. Press ZERO to enter the next function, or press M+ to exit. When M+ is pressed, display will show SAVE, user can either press ZERO for yes to save the changes made or press CL for not to save the changes.

#### 4.1.8 Transmission Protocol

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

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F5

When display shows <b>F5</b> , press <b>ZERO</b> to enter the function				
First level selection:	nonE / rS232			
Second level selection:	bAUd / ProtL			
Selection under <b>bAud</b> :	4800 / 9600 / 19200 / 38400 / 115200bps			
Selection under <b>ProtL</b> :	n.8.1 / E.7.1 / o.7.1 / E.8.1			
use MR key to select, M+ to change, ZERO key to confirm				

- d. Press **ZERO** to confirm and exit the current function, display shows **F6**
- e. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** for not to save the changes.

#### **Terminology:**

**nonE**: no data output rS232: data output through RS-232 only

#### 4.1.8.1 Transmission Mode

Under this function, user can select the transmission interface, speed, mode and format for RS-232 or RS485, and also the communication protocol.

- f. Indicator is off
- g. Press and hold TARE and press ON/OFF, display shows F1
- h. Continue pressing TARE until display shows F7

```
Selection under trAnS: StrM / Manu / CMd / Auto
Selection under ForMt: SEr.1 / SEr.2
use ZERO key to select, MODE key to confirm
```

- i. Press MODE to confirm and exit the current function, display shows F8
- j. Press MODE to enter the next function, or press ZERO to exit. When ZERO is pressed, display will show SAVE, user can either press MODE for yes to save the changes made or press ZERO for not to save the changes.

Terminology:

trAnS: transmission mode ForMt: result format

#### Sample of print data:

**StrM**: continue sending data when weighing result stables (only support Ser.1 format)

10.05kg

-10.05kg

6.00kg

0.00kg

.....

**MAnU**: data is sent once when manually press **M+**, and send total value when pressing **MC**When format setting is Ser.1, data is sent once when pressing **M+**, but does not support print total

10.05kg

-10.05kg

6.00kg

0.00kg

.....

When format setting is Ser.2, data is sent once when pressing **M+**, and print total value when pressing **MC** 

S/N	WT	U/W	QTY	
1	64.3	0.53589	120	<-print single date when pressing M+
2	137.7	0.53592	257	
3	168.8	0.53590	315	
4	101.3	0.53591	189	
5	++++		100	<-M+ manually enter the quantity without weighing
Sum		472.1g/98	81pcs<	<-print total result when pressing MC

Auto: data is sent once when weighing result stables

When format setting is Ser.1, data is sent once when weighing result exceeds 10e and stabilized, but does not support print total

When format setting is Ser.2, data is sent once when weighing result stables, and print total value when pressing **MC** 

S/N	WT	U/W	QTY	
1	64.3	0.53589	120	<-print single date when result stables
2	137.7	0.53592	257	
3	168.8	0.53590	315	
4	101.3	0.53591	189	
5	++++		100	<-M+ manually enter the quantity without weighing
Sum		472.1g/9	81pcs ·	<-print total result when pressing MC

#### 4.1.9 Turning On/Off Real Time Clock (OPTION)

Under this function, user can turn on or off real time clock function.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F16
- d. Press **ZERO** to enter, and display shows **rtC.oF**

- e. Press MR to select between rtC.on or rtC.oF
- f. Press ZERO to confirm and exit the current function, display shows F17
- g. Press **ZERO** to enter the next function, or press **M+** to exit. When **M+** is pressed, display will show **SAVE**, user can either press **ZERO** for yes to save the changes made or press **CL** for not to save the changes.

When printing with RTC function enabled, it will look like:

When format setting is Ser.1:

2015/01/09	10:50:30 ST, NT,	100.01kg	<-net weight
2015/01/09	10:50:31 ST, NT,	100.01kg	
2015/01/09	10:50:32 US, GS,	1000.01kg	<-gross weight

.....

When format setting is Ser.2:

2015/01/09 10:50:30

WT	U/W	QTY
64.3	0.53589	120
137.7	0.53592	257
168.8	0.53590	315
101.3	0.53591	189
++++		100
	64.3 137.7 168.8 101.3	64.3 0.53589 137.7 0.53592 168.8 0.53590 101.3 0.53591

<-M+ manually enter the quantity without weighing

Sum

472.1g/981pcs<-print total result when pressing MC

#### 4.1.10 Time and Date Setup

Use this function to setup year, month and date as well as time in 24 hours format.

- a. Scale is off
- b. Press and hold TARE and press ON/OFF, display shows F1
- c. Continue pressing TARE until display shows F17
- d. Press **ZERO** to enter, and display shows **YEAr** in the Unit Weight window with digits flashing in Total Count window
- e. Use the numeric keypad to enter the date information directly, and press M+ to confirm
- f. The setting currently engaging will be reminded in the Unit Weight window, repeat the above steps to complete setting on month, date, hour, minute and second
- g. When setting is completed, display shows **F18** (or **F20** if scale is in unlock condition)

h.	Press <b>M+</b> to exit, display will show <b>SAVE</b> , user can either press <b>ZERO</b> for yes to save the changes made or press <b>CL</b> for not to save the changes.

#### **5 INSTRUCTION TO USE**

The counting scale VGC/VOC 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**

The standard procedure of a successful weighing is by placing the item on platter first and use the numeric keypad to enter the unit price. The gross weight of the item is displayed in the **WEIGHT** window and piece weight is displayed in the **UNIT WEIGHT** window.

When load is placed on platter and unit weight is entered, scale will show the total piece count of such load on **TOTAL COUNT** window.

To start the next weighing, remove the item from platter and put on the next item. Use the numeric keypad to enter the unit weight and total piece count will be shown in the **TOTAL COUNT** window.

#### **5.2 HOW TO USE TARE FUNCTION**

This scale equips with auto tare function (please refer to **F9** of internal setting), auto-continuous tare, manual tare and preset tare.

- a. If auto tare function is enabled, weight will be automatically tared off the initial weight when place on the platter
- b. If auto continuous tare function is selected, weight will be automatically tared off once it stables until the full tare range
- c. If manual tare is needed, place the load/container on the platter first and press **TARE** key to tare off the weight. After weight is tared, **NET** indicator will appear indicating the weight showing on display is net weight
- d. If preset tare is needed, use numeric keypad to enter the tare value and then press **TARE** key. The display will show a negative preset tare value and both **NET** and **PT** indicators will appear
- e. The **ZERO** indicator points out the negative value shown means the platter is at zero weight status
- f. When the goods is placed on the platter with a positive value shown, this indicates the actual weight of the goods.

#### 5.2.1 How To Clear Tare Function (auto tare, manual tare, preset tare)

- To clear auto tare, remove the initial weight/load from the platter and NET indicator will turn off.
   Press ZERO key to return to zero weight status if ZERO indicator does not appear.
- b. To clear manual tare, remove everything from platter and press **TARE** key, the **NET** indicator will turn off. Press **ZERO** key to return to zero weight status if **ZERO** indicator does not appear.
- c. To clear preset tare, press 0 on the numeric keypad first and then press TARE key to cancel preset tare. Please make sure scale is not engaged in any kind of tare before proceed to modify the pre-tare value.

#### NOTE:

It is regulated by OIML R76 that in dual range application, tare value will be cancelled automatically when returning from W2 to W1.

#### **5.3 HOW TO USE THE COUNT FUNCTION**

The result of total piece count is the result of calculation from weight being placed on the platter against with unit piece weight. There are two methods to obtain the unit weight:

#### 5.3.1 Automatic Sampling

- a. Refer to the above steps about how to weigh and place a known quantity on platter
- b. Use numeric keypad to enter the known quantity and press QTY SET
- c. Scale will show the piece weight in **UNIT WEIGHT** window

#### **5.3.2** Direct Entry

- a. Refer to the above steps about how to weigh and place a load on platter
- b. Use numeric keypad to enter the piece weight and press WT. SET
- c. The total quantity will be in **TOTAL COUNT** window
- d. To set another piece weight, remove the load and manually enter the unit piece weight and press **WT. SET**
- e. If a mistake a found when key in the value, press **CL** to start again. To cancel the unit weight, press **0** and then press **WT.SET**

#### **5.4 HOW TO USE MEMORY FUNCTION**

#### 5.4.1 To Save To Memory

This scale comes with memory function and result can be transmitted through optional RS232 interface.

- a. Obtain the total count by either automatic sampling or direct entry
- b. Press M+

- c. **UNIT WEIGHT** window shows "Add. XX", for "XX" is the number of transactions saved in memory, while the **TOTAL COUNT** window will show the accumulated result with **TOTAL** indicator on. Both information will remain on display for 1 second and return to normal weighing
- d. **M+** indicator is switched on meaning there are data saved in memory
- e. Remove item from platter and repeat the above steps to save the next transaction

#### 5.4.2 To Recall From Memory

- a. Press MR once to recall the total amount of transactions saved in memory, WEIGHT window shows the total accumulated weight, UNIT WEIGHT window shows "tot. XX", for "XX" is the number of transactions saved in memory, while the TOTAL COUNT window will show the accumulated quantity with TOTAL indicator on
- b. Information on display will show for 3 second and return to normal weighing

#### 5.4.3 To Delete From Memory

- a. Press MR to recall the accumulated data from memory
- b. Press CL after MR is pressed
- c. Memory is cleared and M+ indicator is off
- d. If any other key instead of CL is pressed after pressing MR, memory will not be deleted

#### **5.5 HOW TO USE CHECK FUNCTION**

The check function provides an audible warning towards the upper limit set by user for either total quantity or gross weight

- a. Press CHK and display will show CHECK on TOTAL COUNT window
- b. Use numeric keypad to enter either the upper limit for quantity or weight
- If the value entered is for total quantity, press QTY SET; if the value entered is for weight, press
   WT. SET
- d. If the value entered is incorrect, press **CL** to clear the value. If the intend function is wrongly pressed, restart the check function
- e. To cancel the check function, press **CHK** first and press digit key "**0**". When the value 0 is flashing in the **UNIT WEIGHT** window, press either **QTY SET** or **WT. SET** to cancel the function which was previously engaged

#### **5.6 AUTO PIECE WEIGHT ENHANCEMENT FUNCTION**

This scale equips with auto piece weight enhancement function, which activates automatically when the piece weighing is obtained through **5.3.1 Automatic Sampling**. This function provides a constant monitoring on the changes on the unit piece weight to obtain the most precise counting result. The updated unit piece weight will show on the **UNIT WEIGHT** window follows by a short beep.

In order to have auto piece weight enhancement function working properly, there are two conditions to meet:

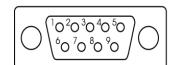
- 1. Unit weight is obtained by automatic sampling, the direct entry method will only have fix unit weight.
- 2. After the initial sampling, the next load place on the platter must not exceeds 100% of the original count

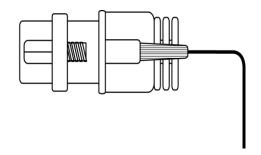
# 5.7 HOW TO CONNECT RS-232 (D-sub 9 pin female connector)

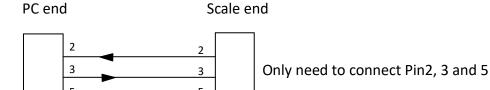
- a. Refer to 4.1.8 to set the transmission protocol
- b. Data code: ASCII

# Pin Assignment (PC end)

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







#### 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 switch 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 DEFINATION**

Α	В	С	D	Е	F	G	Н	I	J	K	L	М
				Ш	Ш	8		00	8			8
N	0	Р	Q	R	S	Т	U	V	W	X	Y	Z
				Ш		Н		00	8		8	8
0	1	2	3	4	5	6	7	8	9			