

APP SERIES

5-5-6 DIGITS

ELECTRONIC PRICE COMPUTING INDICATOR

OPERATION MANUAL

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE
ATTEMPT TO OPERATE THE SCALE

DECEMBER 2004 REV 1

Specifications subject to change without prior notice

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1. INSTALLATION

Because of metrological legislation, installation/some metrological parameter settings are limited to be done by authorized personnel only. Do not attempt to change any of the built-in parameters. Contact your dealer for installation and technical assistance.

CAUTION:

This unit is legal for trade only when it is sealed (and/or stamped) and bearing a serial number. Do not attempt to break the seal (or stamp) affixed to this indicator or remove the serial number. Contact your dealer for more information and after sales service.

For most accurate weighing result, do not use the indicator in where or when the environment condition falls beyond as those listed on **SPECIFICATIONS**.

Do not attempt to open this unit or conduct any trouble shootings other than those listed on **TROUBLE SHOOTING**.

2. SPECIFICATIONS

Model No.	Max (kg)	e (kg)	Platform size (cm)
APP-B30	30	0.01	33 x 45
APP-B60	60	0.02	33 x 45
APP-B150	150	0.05	33 x 45
APP-F60	60	0.02	42 x 52
APP-F150	150	0.05	42 x 52
APP-F300	300	0.1	42 x 52
APP-L150	150	0.05	50 x 60
APP-L300	300	0.1	50 x 60
APP-L550	550	0.2	50 x 60
n_{max}	3000 (NOTE 1)		
Tare Range	Full Tare Range		
Power-on Zero Range	±10% Max.		
Zero Range	±2% Max.		
Min. Load	20e (NOTE 2)		
Max. measuring range	9.0mV		
Min. signal voltage per verification scale interval	1.5 μV		
Power voltage requirements	6V DC (By Built-in Rechargeable Battery or External Power Adaptor)		
Load cell Excitation voltage	5 V DC		
Minimal load cell impedance	85Ω		
Maximal load cell impedance	1000Ω		
Load cell connection	4 wires		
Operation Environment	0°~40°C Non-condensed. R.H. ≤85%		

Specifications subject to change without notice

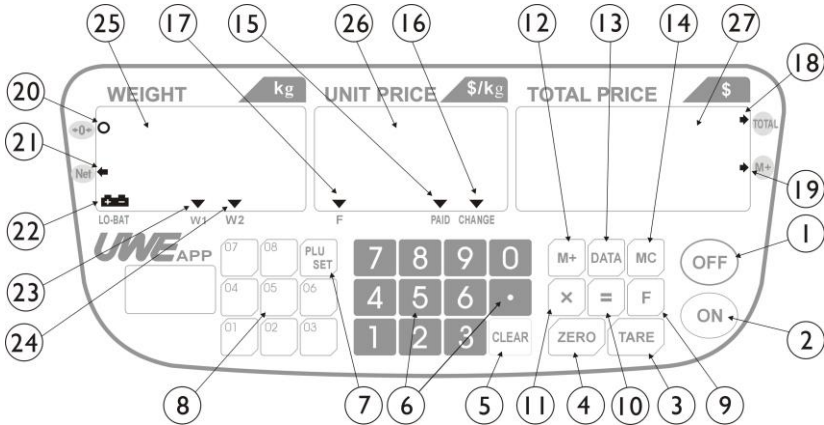
NOTE 1:

The recommend division when application is legal for trade (OIML mode) is 3000; and 6000 to 7500 when application is not legal for trade (normal mode). The maximum display resolution of this unit under non-approved mode is 1/15000.

NOTE 2:

For dual range, change e to e_1 .

3. KEYBOARD, PANELS LAYOUT AND DESCRIPTION



1. OFF KEY

Press this key to turn scale off.

2. ON KEY

Press this key to turn scale on.

3. TARE KEY

Press this key to tare off the weight of a container. Refer to **SPECIFICATIONS** for maximum tare range.

4. ZERO KEY

Press this key to set weight to zero. Refer to **SPECIFICATIONS** for maximum zero range.

5. CLEAR KEY

Press this key to clear the numeric figure just entered or quit from function in process.

6. NUMERIC AND DECIMAL KEYS

Use these keys to attain the desired numeric value.

7. PLU SET KEY

Press this key to set a unit price to PLU.

8. DIRECT PLU KEYS

Press these keys to recall the unit price stored in the corresponding PLU location.

8. FIXED UNIT PRICE KEY

Press this key to enter a fixed unit price.

10. PAID/CHANGE KEY

Press this key to recall accumulated total price or trigger the change function.

11. NON-WEIGHED ARTICLE KEY

Use with numeric and decimal keys to calculate total price of non-weighed articles.

12. MEMORY PLUS KEY

Press this key to accumulate current transaction to memory.

13. DATA KEY

Press this key to recall/check stored transactions data.

14. MEMORY CLEAR KEY

Press this key to clear individual or all stored transactions.

15. PAID INDICATOR

This indicator appears when scale is in the PAY mode, the value shown in the **UNIT PRICE** panel is the amount given.

16. CHANGE INDICATOR

This indicator appears when scale is in the CHANGE mode, the value shown in the **UNIT PRICE** panel is the change to give back.

17. FIXED UNIT PRICE INDICATOR

This indicator appears when the fixed unit price function is in operation.

18. ACCUMULATED TOTAL PRICE INDICATOR

This indicator appears when the value being shown on **TOTAL PRICE** panel is the accumulated value stored.

19. MEMORY INDICATOR

This indicator appears when memory contains of stored data.

20. ZERO INDICATOR

This indicator appears when scale is at a zero weight status.

21. NET INDICATOR

This indicator appears when the tare function is in operation. The weight being displayed on the **WEIGHT** panel is the net weight.

22. LO-BAT INDICATOR

This indicator will appear when the power level of the rechargeable battery inside scale is low. Recharge the scale immediately. Failure to do so may cause unrecoverable damages to the built-in rechargeable battery.

23. FIRST WEIGHING RANGE INDICATOR

When scale is set in dual range mode, this indicator

will appear when scale is operating in the lower weighing range Max 1 with repeatability of e1.

24. SECOND WEIGHING RANGE INDICATOR

When scale is set in dual range mode, this indicator will appear when scale is operating in the lower weighing range Max 1 with repeatability of e1.

25. WEIGHT PANEL

The weight detected is shown here.

26. UNIT PRICE PANEL

The current unit price entered is shown here.

27. TOTAL PRICE PANEL

Price to pay of the current transaction is shown here.

4. INITIAL SETUP

4.1 PLACING THE SCALE

In order to obtain an accurate weighing result, the complete weighing instrument (*hereinafter referred as the scale*) must be placed on a strong and level surface.

4.2 INTERNAL SETTING

4.2.1 Display Segment Check

User can use this function to check if the LCD and backlight are functioning properly.

- a. Scale is off
- b. Press and hold **=**, then press **ON**
- c. Scale displays **F.1**
- d. Press **=** once to **F.2**
- e. Press **x** and all segments will light up for user to check the condition of the display
- f. Press **=** for next function setup or **ZERO** to restart the scale

4.2.2 Select Auto Power Off Setting

The scale is equipped with **Auto Power Off Function**. The scale will power off automatically if it is not used for 4 minutes. Follow the below steps to enable/disable **Auto Power Off Function**.

- a. Scale is off
- b. Press and hold **=**, then press **ON**

- c. Scale displays **F.1**
- d. Press **=** three times to **F.4**
- e. Press **x** to shift between **0._OFF** or **4._OFF**
 - To enable **Auto Power Off Function**, press **=** when **4._OFF** appears
 - To disable **Auto Power Off Function**, press **=** when **0._OFF** appears
- f. Press **x** for next function setup or **ZERO** to restart the scale

4.2.3 Select RS-232 Baud Rate & Protocol

This scale is equipped with 3 RS232C output baud rate and 2 transmission protocol settings for user to select.

- a. Scale is off
- b. Press and hold **=**, then press **ON**
- c. Scale displays **F.1**
- d. Press **TARE** four times to **F.5**
- e. Press **x** to enter
- f. Press **F** to select baud rate of 4800, 9600 or 19200
- g. Press **x** again to enter transmission protocol setup
- h. Press **F** to select protocol of P=N81 or P=E71
- i. When the preferred transmission protocol shows on display, press **=** to confirm and proceed to the next function setup or **ZERO** to restart the scale

NOTE:

The default data output format of the scale is

Baud Rate = 9600

Data Bit = 8

Stop Bit = 1

Parity = None

4.2.4 Select Auto Tare Function

This scale is equipped with auto tare function which tares off the initial weight automatically when this function is enabled. The tare weight is automatically cleared when everything is removed from platter.

- a. Scale is off
- b. Press and hold =, then press **ON**
- c. Scale displays **F.1**
- d. Press = five times
- e. Scale displays **F.9**
- f. Press **x** to select between **Tr_on** or **TroFF**
 - To enable **Auto Tare Function**, press = when **Tr_on** appears
 - To disable **Auto Tare Function**, press = when **TroFF** appears
- g. After = is pressed, scale display **F.1**
- h. Press = to select the next function setupg or **ZERO** to restart the scale

5. INSTRUCTION FOR USE

5.1 BEFORE WEIGHING

Make sure that:

- a. Connect the load cell signal and power to the indicator properly
- b. Place the scale on a level and strong surface
- c. The scale is turned on

5.2 SET DISPLAYED VALUE TO ZERO WHEN UNLOADED

If zero weight cannot be obtained when unloaded, press **ZERO**. After **ZERO** is pressed, the **ZERO INDICATOR** would appear.

Refer to **SPECIFICATIONS** for maximum zero range.

5.3 TRANSACTION WEIGHING

5.3.1 Place the Article

Place an article on the platter. The weight of the article is shown on the **WEIGHT** panel.

5.3.2 Enter the Unit Price

The unit price can be entered by one of the following methods.

- a. By making use of the numeric keys and decimal keys,

or;

- b. By pressing the appropriate **DIRECT PLU RECALL KEY**

Once the unit price is entered, the price to pay of the article will be shown on the **TOTAL PRICE** panel.

NOTE: Refer to **5.11** for more information about PLU functions.

5.4 FOLLOW-UP TRANSACTIONS

When the present transaction is completed, remove all loads from the platter.

A zero weight is now showed on the **WEIGHT** panel and the previous unit price return to zero unless the **FIXED UNIT PRICE FUNCTION** is engaged.

Refer **5.3.1** to **5.3.2** for follow-up transactions.

5.5 HOW TO TARE OFF THE WEIGHT OF A CONTAINER

When a container is used, follow the below steps to tare the weight of the container off to get a net weight result.

- a. Remove all loads away from platter
- b. Make sure that the **ZERO INDICATOR** is on
- c. Place the container on the platter
- d. Press **TARE**

After **TARE** is pressed, the **NET INDICATOR** would appear. Refer to **SPECIFICATIONS** for maximum tare range.

Refer to **5.3** for transaction weighing procedures. Weight displayed under this mode is the net weight of the article.

5.6 HOW TO CLEAR THE TARE FUNCTION

Remove all loads from platter then press **TARE**. After **TARE** is pressed, the **NET INDICATOR** would disappear.

5.7 FIXED UNIT PRICE FUNCTION

The **FIXED UNIT PRICE FUNCTION** can be utilized when a same unit price is used for continuous transactions.

5.7.1 Employ the Fixed Unit Price Function

Follow the below steps to enable the **FIXED UNIT PRICE FUNCTION**

- a. Press **F** before or after entering the unit price. Refer to **5.3.2** for unit price entering
- b. The fixed unit price entered is now displayed on the **UNIT PRICE** panel and the **FIXED UNIT PRICE INDICATOR** is turned on
- c. Should a container is used, refer to **5.5** to tare off the weight of it.
- d. Place an article onto the platter, the price to pay

is displayed on the **TOTAL PRICE** panel

- e. Remove the article from platter. The unit price will remain on the **UNIT PRICE** panel
- f. Repeat **c**, **d** and **e** for follow-up transactions

5.7.2 Cancel the Fixed Unit Price Function

- a. Press **F** again to cancel the **FIXED UNIT PRICE FUNCTION**
- b. The **FIXED UNIT PRICE INDICATOR** is now turned off and **UNIT PRICE** panel will return to zero

5.8 NON-WEIGHED ARTICLES

Total price of a certain quantity of non-weighed articles can be obtained by the following procedures.

- a. Enter unit price per piece by the numeric and decimal keys
- b. Press **X**
- c. Enter the quantity of total pieces by numeric keys. Only integer value will be accepted
- d. Total price of the non-weighed articles is shown on the **TOTAL PRICE** panel
- e. If figures are wrongly entered in **a** or **c**, press **CLEAR** once to re-enter the figure or press it twice to quit and return to normal

5.9 MEMORY FUNCTIONS

5.9.1 Accumulate a Transaction to Memory

- a. Refer to 5.3.1 to 5.3.2 for transaction weighing
- b. Press **M+** to save and accumulate data of current transaction to memory.
- c. Scale displays "P.P. 1" on **UNIT PRICE** panel, **M+ INDICATOR** and **ACCUMULATED TOTAL PRICE INDICATOR** appear to indicate that memory contains data while value shown on **TOTAL PRICE** panel is the accumulated value payable

NOTE: "P.P. #" means the total number of transactions saved in memory.

- d. Scale return to normal display when article is removed from the platter. **ACCUMULATED TOTAL PRICE INDICATOR** will go off automatically
- e. Repeat **a** to **c** for subsequent transactions

5.9.2 Accumulate Price to Pay of Non-Weighed Articles to Memory

- a. Refer to 5.8 to obtain total price to pay of non-weighed articles
- b. Press **M+** to save the result to memory
- c. Scale displays "P.P. #" on **UNIT PRICE** panel **M+ INDICATOR** and **ACCUMULATED TOTAL PRICE INDICATOR** appear to indicate that memory contains data while

value shown on **TOTAL PRICE** panel is the accumulated amount payable

NOTE: "P.P. #" means the total number of transactions saved in memory.

5.9.3 Memory Recall

5.9.3.1 To recall price to pay of individual transaction

- a. Press **DATA**
- b. Scale displays "P. 1" on **UNIT PRICE** panel and value to pay of this transaction on **TOTAL PRICE** panel
- c. Repeat step **a** and **b**
- d. Scale displays "P. #" on **UNIT PRICE** panel and value to pay of this transaction on **TOTAL PRICE** panel

NOTE: "P. #" means the order of that transaction stored in memory.

- e. When **DATA** is pressed after the last transaction is shown. Scale displays "P.P. #" on **UNIT PRICE** panel and total accumulated amount payable on **TOTAL PRICE** panel

NOTE: "P.P. #" means the total number of that transactions stored in memory.

- f. Press **CLEAR** to quit and return to normal

5.9.3.2 To recall total accumulated amount

- a. Press **=**
- b. Scale displays the total accumulated amount payable on **TOTAL PRICE** panel
- c. **ACCUMULATED TOTAL PRICE INDICATOR** appears to indicate that value shown on **TOTAL PRICE** panel is the accumulated amount payable
- d. Press **CLEAR** to quit and return to normal

5.9.4 Memory Clear

Individual or all transactions stored in memory can be deleted or cleared by the following methods.

CAUTION: All data stored, except those contained in unit price PLU, will be erased when the scale is off, either automatically or manually.

5.9.4.1 Delete individual transaction from memory

- a. Refer to **5.9.3.1** to recall price to pay of individual transaction stored
- b. Press **MC** to delete the transaction selected
- c. Press **CLEAR** to quit and return to normal

5.9.4.2 Delete all transactions from memory

All transactions stored in memory can be deleted by any of the following methods.

- a. Press **MC** during normal operation status, or,
- b. Press **MC** when the total accumulated amount is recalled. Refer to **5.9.3** for memory recall.

NOTE: Once all transactions are deleted, the **MEMORY INDICATOR** and **ACCUMULATED TOTAL PRICE INDICATOR** will turn off to indicate memory contains no data.

5.10 PAY AND CHANGE FUNCTIONS

- a. Press **=** to recall the total accumulated price. Scale displays "**P.P. #**" on **UNIT PRICE** panel and total accumulated amount payable on **TOTAL PRICE** panel
- b. Enter amount received (make sure that amount received is higher than the amount payable). The received amount will show on the **UNIT PRICE** panel while **PAID INDICATOR** appears indicating the value shown is the paid amount
- c. Press **=**
- d. The amount to be changed appears on the **UNIT PRICE** panel. The **PAID INDICATOR** goes off and the **CHANGE INDICATOR** appears to indicate the value shown on the **TOTAL PRICE** panel is the amount to be changed
- e. All transactions stored in memory are now erased, display will return to normal after 5 seconds

5.11 UNIT PRICE LOOKUP (PLU)

This unit is equipped with 8 direct PLUs (unit price

lookups). Follow the below procedures for how to use the PLU function.

5.11.1 To Store a Unit Price to PLU

- a. By making use of the numeric and decimal keys to enter the unit price
- b. Press **PLU SET, WEIGHT** panel shows "**PLU.=?**" and **TOTAL PRICE** panel shows "**Pr.SET**"
- c. Press any one of the 8 direct PLUs to store the unit price

5.11.2 To Recall the Unit Price from PLU

Unit prices stored in location 01 to 08 can be recalled by pressing the direct PLU keys.

5.11.3 To Clear Unit Price from PLU

A unit price stored in PLU location can be erased by entering a zero or new unit price.

5.12 BACKLIGHT (OPTIONAL ACCESSORIES) SETTINGS

Follow the below steps to turn on and off the backlight.

5.12.1 Turn Backlight On: - Power Saving Mode

Press **1** and then press **ZERO** to enable backlight in power saving mode. Under this mode, backlight will go off after scale has been left idle for 20 seconds.

Backlight will automatically turn on again when a new weight is detected or when a key is pressed.

5.12.2 Turn Backlight On: - Continuous Mode

Press **2** and then press **ZERO** to turn backlight on.

Under this mode, the backlight will remain powered on until the backlight is manually turned off (by **5.12.3** method) or a new backlight command (**5.12.1**) is entered.

5.12.3 Disable Backlight

Press **0** and then press **ZERO** to disable backlight.

NOTE: Change backlight settings before applying unit price.

5.13 RECHARGE THE SCALE

When the **LO-BAT INDICATOR** appears, recharge the scale immediately. Failure to do so may cause unrecoverable damage to the rechargeable battery.

6. PRINTER AND RS232C INTERFACE

The APP series are equipped with standard printer interface, and optional RS232 interface upon purchase. Both interfaces will give the same data output, however, RS232 will not transmit any data to computer unless the scale is connected to a printer.

Below is the data output format for both interfaces. Please refer to the notes for more information.

S/N	kg	EURO/kg	Subt.	NOTE
1.	0.200	25.64	5.13	NOTE 2
2.	0.215	56.00	12.04	
2.	---	---	-12.04	NOTE 3
4.	+++		392.00	NOTE 4
3/	TOTAL (EURO) :		397.13	NOTE 5
	PAY (EURO) :		400.00	NOTE 6
	Change (EURO) :		2.87	

NOTE 1: This is the standard heading which includes the order of transaction, weight, currency and subtotal.

NOTE 2: This transaction shows the weight, unit price per kg and the subtotal amount for the article.

NOTE 3: This line means the second article is erased from memory. Please refer to **5.9.4** for how to clear transaction from memory.

NOTE 4: This line is the output format of non-weighed article. Please refer to **5.8** for more information.

NOTE 5: When clear the memory by pressing **MC**, the output data will show the total amount and number of transactions.

NOTE 6: The pay and change data will only appear when the pay/change function is activated. Please refer to **5.10** for more information.

7. TROUBLE SHOOTING

Syndrome	Indicator cannot be turned on
Check:	Is the indicator powered properly?
Action:	Check power supply to indicator.
Syndrome	Indicator turned off automatically
Check	Is Auto Power Off Function employed?
Action	Refer to 4.2.2 to disable Auto Power Off Function .
Check	Is the LO-BAT INDICATOR on?
Action	Check power supply.
Syndrome	Rated capacity cannot be reached
Check	Is the NET INDICATOR on?
Action:	Turn the indicator off. Remove all loads and turn on again.
Check	Is there anything obstructing the scale?
Action	Remove all obstacles.
Syndrome	Blank WEIGHT panel with zero value in TOTAL PRICE panel
Check	Is the load applied to scale excess the rated capacity?
Action	Remove all loads and try again.
Syndrome	Indicator displays -----

Check Is the load cell signal cables connected to the indicator properly?

Action Recheck signal cable connections.

Check Is load cell working properly?

Action Check load cell input/output.

Syndrome **Display shows 00000 after counting down**

Check Is the load applied to platter excess the rated capacity of scale?

Action Remove all loads from platter and try again.

Syndrome **Weighing result is not accurate**

Check Is the scale placed in a level condition?

Action Obtain a level condition.

Check Is the scale affected by airflow, vibration or RFI?

Action: Place the scale away from all disturbances.

Check Is the indicator calibrated correctly?

Action Contact your dealer.

8. DAILY CARE AND MAINTENANCE

8.1 Clean the indicator with a soft and damp cloth. If necessary, apply a mild detergent.

8.2 Do not use any harsh, abrasive material, acetone, volatile solvent, thinner or alcohol for cleaning.

8.3 Verify the accuracy of indicator periodically. Re-calibrate the indicator if necessary.

NOTE: In some countries, calibration requires authorized/qualified agent. Contact your dealer for more information.

8.4 It is a good practice to apply the dust cover when operating the scale.

8.5 Store indicator scale in a dry and clean place.

APPENDIX: CONNECTING TO A PLATFORM

When connecting a platform to APP indicator, it is necessary to make sure the load cell in use is OIML R60 approved and WELMEC Guide 2 compatible. Please fill out the Compatibility of Modules data sheet to ensure all conditions are passed.

Please find the below table to help you when connecting a platform to the indicator:

Connector Pin Number	Load Cell Signal Cable
1	E+
2	E-
3	S+
4	S-
5	GND

X0APP030000