

**APM - NTEP**

**ELECTRONIC WEIGHING SCALE**

**OPERATION MANUAL**

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE  
ATTEMPTING TO OPERATE THIS SCALE

DECEMBER 2003 REV 2

*Specifications subject to change without prior notice*

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## 1. INSTALLATION

Because of metrological legislation, access to some metrological parameter settings is restricted to authorized personnel. Do not attempt to change any of the built-in parameters. Contact your scale 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 scale or remove the serial number. Contact your dealer for more information and after sales service.

For most accurate weighing results, do not use the scale where or when the environmental conditions fall outside those listed in **SPECIFICATIONS**.

Do not attempt to open this unit or conduct any trouble shooting other than that listed in **TROUBLE SHOOTING**.

## 2. SPECIFICATIONS

Model No.	Capacity (Max)	Division (e)
APM-6 (Non-NTEP)	6kg/15lb	0.002kg/0.005lb
APM-15 (NTEP)	15kg/30lb	0.005kg/0.01lb
APM-30 (NTEP)	30kg/60lb	0.01kg/0.02lb
APM-60 (NTEP)	60kg/150lb	0.02kg/0.05lb
APM-150 (NTEP)	150kg/300lb	0.05kg/0.1lb
Tare Range	1/3 Max. $\pm$ e	
Power-on Zero Range	$\pm$ 10% Max.	
Zero Range	$\pm$ 0.2% Max.	
Min. Load	20e	
Max. measuring range	9.0mV	
Min. signal voltage per verification scale interval	1.5 V	
Power source	BY EXTERNAL POWER ADAPTOR OR RECHARGEABLE BATTERY	
Minimum battery voltage	5.5 VDC	
Load cell Excitation voltage	5 VDC	
Minimal load cell impedance	85	
Maximal load cell impedance	1000	
Load cell connection	4-wire	
Operation Environment	-10°~40°C (14°~104°F) Non-condensed. R.H. $\pm$ 85%	

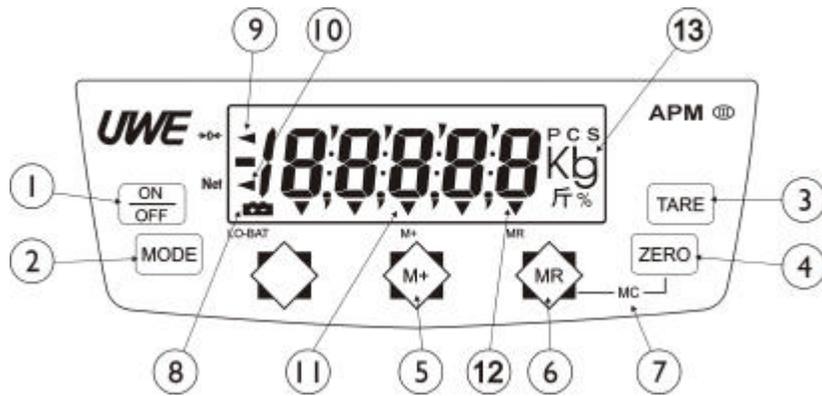
*Specifications subject to change without notice.*

### NOTE:

NTEP = Approved, legal for trade

Non-NTEP = Not approved, not legal for trade

### 3. KEYBOARD LAYOUT AND DESCRIPTION



#### 1. ON/OFF KEY

Press this key to turn indicator on or off.

#### 2. MODE KEY

Press this key to shift among different weight units and/or turn backlight on/off. (If supplied)

#### 3. TARE KEY

Press this key to tare off the weight of a container.

#### 4. ZERO KEY

Press this key to set weight displayed to zero.

#### 5. M+ KEY

Press this key to accumulate current weight to memory.

#### 6. MR KEY

Press this key to recall the total accumulated weight from memory.

#### 7. MC KEY

Press **MR** and **ZERO** simultaneously to clear weight from memory.

#### 8. LO BAT INDICATOR

This indicator appears when input voltage is below the lowest input limit. Check the power supplied to the indicator.

#### 9. ZERO INDICATOR

This indicator appears to indicate zero weight status.

#### 10. NET INDICATOR

This indicator appears to indicate the tare function is in operation and weight shown is net weight.

#### 11. M+ INDICATOR

This indicator appears to indicate memory contents of stored data.

#### 12. MR INDICATOR

This indicator appears to indicate the value shown is the total accumulated weight stored.

#### 13. WEIGHT UNIT INDICATOR

The weight unit that is currently in use 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 firm, stable and level surface.

If required, adjust the adjustable feet, underneath the scale, to level the scale. Refer to the spirit level for assistance with leveling.

### 4.2 INTERNAL SETTING

#### 4.2.1 Display Segment Check

User can enter this function to check to see if the display and backlight (if purchased) are functioning properly.

- a. Scale is off
- b. Press and hold **TARE**, then press **ON/OFF**
- c. Scale displays **F.1**
- d. Press **TARE** once
- e. Scale displays **F.2**
- f. Press **MODE** and all segments will light up to allow user to check the condition of display
- g. Press **TARE** to quit and **ON/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 **TARE**, then press **ON/OFF**
- c. Scale displays **F.1**
- d. Press **TARE** three times
- e. Scale displays **F.4**
- f. Press **MODE** to shift between **0\_OFF** and **4\_OFF**
  - To enable **Auto Power Off Function**, press **TARE** when **4\_OFF** appears
  - To disable **Auto Power Off Function**, press **TARE** when **0\_OFF** appears
- g. Press **ZERO** to restart the scale or **TARE** for next function setup

#### 4.2.3 Select Auto Tare Function

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

- a. Scale is off
- b. Press and hold **TARE**, then press **ON/OFF**
- c. Scale displays **F.1**
- d. Press **TARE** four times
- e. Scale displays **F.9**
- f. Press **MODE** to select between ;Tr\_on;" or TroFF;  
-To enable **Auto Tare Function**, press **TARE** when **Tr\_on** appears  
-To disable **Auto Tare Function**, press **TARE** when **TroFF** appears
- g. Press **TARE** for next function setup or **ZERO** to restart the scale

**NOTE:**

The Auto Tare Function will not be accessible if the unit is purchased as legal for trade.

## **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 firm surface.
- c. The indicator is turned on.
- d. The **ZERO INDICATOR** is on. If not, press **ZERO** to set display to zero.

### **5.2 WEIGHING**

- a. Always place an object onto the scale gently. Excessive force applied to platter may cause damage to weight sensor.
- b. The weight of the object is displayed on the indicator automatically.
- c. It is a good practice to remove all loads from scale after weighing. It will prolong the lifetime of weight sensor.

### **5.3 SELECT WEIGHT UNIT**

Press **MODE** to shift between metric or avoirdupois weight units. The weight unit used before power off will be employed when the scale is turned on again.

#### 5.4 TURN BACKLIGHT (OPTIONAL) ON/OFF

Follow the below steps to turn on and off backlight (if purchased).

- a. Scale is on
- b. Press and hold **ZERO** until backlight is activated; or press **MODE** to shift between metric and avoirdupois weight to turn on and off backlight

When backlight function is employed, it will automatically turn off when a stable weight remains for 25 seconds or a zero weight is detected and remains stable for 10 seconds. Backlight will be automatically turned on again when a new weight is detected or when any key is pressed.

#### 5.5 SET DISPLAYED VALUE TO ZERO WHEN UNLOADED

By pressing **ZERO**, weight displayed will be set to zero and **ZERO INDICATOR** appears.

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

#### NOTE:

-When the operating environment is unstable, scale memorizes the command and will take place when environment is stable

#### 5.6 TARE OFF THE WEIGHT OF A CONTAINER

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

- 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** will appear.

Refer to **5.2** for weighing procedures. Weight displayed under is the net weight of the subject matter. Refer to **SPECIFICATIONS** for maximum tare range.

#### NOTE:

-When the operating environment is unstable, scale memorizes the command and will complete the command when the environment is stable

#### 5.7 CLEAR THE TARE FUNCTION

- a. Remove all loads from platter
- b. The tare effect will be cancelled:
  - Automatically if automatic tare function is

employed, or

-By pressing **TARE**

- c. After **TARE** is pressed, the **NET INDICATOR** would disappear

## 5.8 MEMORY FUNCTION

### 5.8.1 Accumulate a Transaction To Memory

- a. Refer to 5.2 for weighing producers
- b. Press **M+** to save and accumulate data of current transaction to memory
- c. Indicator displays ;**P. X**;" and **M+ INDICATOR** appears to indicate that memory contains of stored data
- d. Indicator returns to normal display status after 2 seconds
- e. Repeat **a** to **c** for subsequent transactions

#### NOTE 1:

; **P. X**;" mans the total number of transactions accumulated to memory

#### NOTE 2:

-When the operating environment is unstable, scale memorizes the command and will complete the command when the environment is stable

#### NOTE 3:

-Data stored in memory will be cleared when switching to different weight unit

### 5.8.2 Memory Recall

Press **MR** to recall total accumulated weight from memory. After **MR** is pressed, indicator displays **P. X** (X Means the number of transactions accumulated), then a flashing value. The flashing value is the total accumulated weight stored in memory.

When the total accumulated weight is being displayed, **MR INDICATOR** appears to indicator that the value being displayed is the accumulated weight.

Indicator returns to normal display status after 3 seconds.

#### NOTE:

When scale is not at a zero weight status, **MR** will not function. Remove all loads off the platter and try again

### 5.8.3 Memory Clear

Memory can be erased by:

-Press **MR** and **ZERO** simultaneously, or

-Weight unit is changed

**NOTE:**

When scale is not at a zero weight status, **MC** will not function. Remove all loads off the platter and try again

**5.9 LOW BATTERY**

The low battery sign appears when input voltage is below the lowest input limit. Please recharge the scale immediately. Failure to do so may cause unrecoverable damage to the rechargeable battery.

**5.9.1 In the case of a Rechargeable Battery being used**

The indicator will be power off in about 5 to 10 minutes. Recharge the battery now.

**5.9.2 In case of a Power Adaptor being used**

Check power supply to indicator immediately.

**NOTE:**

If LO BAT status is detected during power on, indicator shows **P\_OFF** and the indicator will be powered off automatically.

**6. TROUBLE SHOOTING**

<b>Symptom</b>	<b>Indicator cannot be turned on</b>
<b>Check:</b>	Is the indicator powered properly?
<b>Action:</b>	Check power supply to indicator.
<b>Symptom</b>	<b>Indicator turned off automatically</b>
<b>Check</b>	Is <b>Auto Power Off Function</b> employed?
<b>Action</b>	Refer to <b>4.2.2</b> to disable <b>Auto Power Off Function</b> .
<b>Check</b>	Is the <b>LO-BAT INDICATOR</b> on?
<b>Action</b>	Check power supply.
<b>Symptom</b>	<b>Rated capacity cannot be reached</b>
<b>Check</b>	Is the <b>NET INDICATOR</b> on?
<b>Action:</b>	Turn the indicator off. Remove all loads and turn on again.
<b>Check</b>	Is there anything obstructing the scale?
<b>Action</b>	Remove all obstacles.
<b>Symptom</b>	<b>Blank display with only "kg" or "lb"</b>
<b>Check</b>	Is the load applied to scale excess the rated capacity?
<b>Action</b>	Remove all loads and try again.

**Symptom**      **Indicator displays -----**  
**Check**            Is the load cell signal cable connected to the indicator properly?  
**Action**            Recheck signal cable connections.  
**Check**            Is load cell working properly?  
**Action**            Check load cell input/output.

**Symptom**      **Display shows 00000 after counting down**  
**Check**            Is the load applied to platter above the rated capacity of the scale?  
**Action**            Remove all loads from platter and try again.

**Symptom**      **Weighing result is not accurate**  
**Check**            Is the scale placed on a level surface?  
**Action**            Install the scale on a level surface.  
**Check**            Is the scale affected by airflow, vibration or RFI?  
**Action:**            Position the scale away from all disturbances.  
**Check**            Is the indicator calibrated correctly?  
**Action**            Contact your dealer.

## **7. DAILY CARE AND MAINTENANCE**

- 7.1            Clean the indicator with a soft and damp cloth. If necessary, apply a mild detergent.
- 7.2            Do not use any harsh, abrasive material, acetone, volatile solvent, thinner or alcohol for cleaning.
- 7.3            Verify the accuracy of indicator periodically. Re-calibrate the indicator if necessary by contacting your scale dealer.
- 7.4            Store indicator scale in a dry and clean place.

## **APPENDIX: ERROR CODES**

### **P\_OFF**

Low battery status is detected during power on. Indicator will shut off after this message appears.

### **Error**

Error during calibration.

Case 1:

The 1<sup>st</sup> calibration weight entered is less than 1/3 of rated capacity

Case 2:

The 2<sup>nd</sup> calibration weight entered is over the rated capacity.

Case 3: The span value is not within the acceptable range.