



FM 130

Weighing Scale

User Manual



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BEFORE USING THE SCALE

Thank you for purchasing FM130 Weighing Scale of EXCELL. In order to use the scale properly, please read this User Manual carefully before use. If you have a problem concerning the scale, please contact your supplier.

1. Please keep scale in a cool and dry place. Do not store at high temperatures.
2. Do not allow any liquids to come into or contact with the scale. If it is happened, wipe the scale dry with a cloth.
3. Avoid objects impacting with the scale. Do not drop loads onto the scale or subject the platter to any strong shock loads.
4. The load placed on the platter must not exceed the maximum weighing capacity of the scale.
5. If the scale is not going to be used for some time, please clean it and store it in a plastic bag in dry conditions. A desiccant sachet may be included to prevent moisture build up.
6. Do not mix different types of dry battery or mix used dry batteries with new dry batteries.
7. Options and suggestions on the product are warmly welcome.

PREPARING TO USE THE SCALE

1. For accurate weight readings locate the scale on a firm level surface free from vibrations.
2. Avoid operating the scale in direct sunlight or drafts of any kind.
3. Remove any weight that might be on the platter before the scale is switched on and avoid leaving weight on the platter for long periods of time.
4. Once the scale has been switched on, it will go through a LCD display test and then re-zero to be ready for use.
5. The scale requires 15 ~ 20 minutes warming up the machine before operation to ensure best accuracy.
6. Please note when  symbol appears on the screen, the dry batteries need to be replaced.
7. All goods weighed should be placed in the centre of the platter for accurate weighing. The overall dimensions of the goods being weighed should not exceed the dimension of the platter.



CHAPTER 1 FEATURES AND SPECIFICATIONS

Features:

- **Multi-function operation** : Fast weighing operation; Full range tare; Net / Gross weight display; Simple counting (pcs); Auto power-off; Weight hold feature.
- **Dual-weighing units** : kilogram (kg) and pound (lb) depend on request.
- **User-friendly design** : Auto calibration; Large LCD display; Gravity compensation; low battery warning indicator; double over-load protection.
- **Dual-power source** : The power source can either be from AC / DC or dry batteries.

Product Package:

- Scale 1 unit
- AC adaptor 1 unit
- User manual 1 unit

Please contact to your supplier, if any of the items described above are missing.

Dry batteries are not included in the product package.



CHAPTER 2 POWER SOURCE

Power Supply:

1. Scale with power supplied by rechargeable battery and socket
Charging ⇒ 6V / 1.2Ah Rechargeable battery
Charging ⇒ 6V / 1800mA NiMH battery
Socket ⇒ 110V or 220V adaptor
2. Scale with power supplied by dry battery and socket
Socket ⇒ 110V or 220V adaptor
Dry battery ⇒ No. 2 dry battery *4


Power Consumption:

1. Approximately DC 7 mA (System + Load Cell). The rechargeable battery can supply power around 171 hours. (calculated by 6 V 1.2 AH)
2. Approximately DC 13.5 mA (System + Load Cell + Backlight). The rechargeable battery can supply power around 88 hours. (calculated by 6 V 1.2 AH)

Recharge Voltage:

1. AC 110 V +10% , -15%
2. AC 220 V +10% , -15%

Low Battery Warning:

Please note when the () symbol keeps flashing on the display, the batteries should be changed.

- ◆ The scale will turn off automatically after 20 hours (approximately 10 hours with backlight on), when the low battery warning symbol shows up. The scale must be fully charged, before operating again.
- ◆ New batteries or batteries that have been stored for a long time may require a longer initial charge time.
- ◆ Suggest having a full charge for at least 8 hours before operation.

Notes about charging the NiMH (Nickel-Metal Hydride) battery for **FM-130**:

Status	LED Description
1. Ready to charge	Once the scale is connected with AC power mains, the green and red LEDs will be inter-flashing for 3 seconds as a self-diagnosis.
2. During charging	The red LED will be ON.
3. Finish charging	The green LED will be ON.
4. Battery fault	The green and red LEDs keep inter-flashing without stop.
5. Without battery	The red LED will be ON.

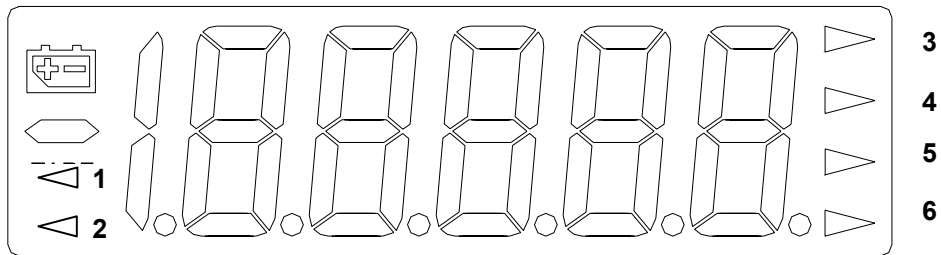



SAFETY

- ◆ Please confirm that the electrodes “+” 、 “-” are on the right position.
- ◆ Danger! Risk of electric leakage. Do not place the battery in high temperature or attempt to disassemble the battery.
- ◆ Do not mix different types of dry battery or mix used dry batteries with new dry batteries.
(Dry battery)
- ◆ To avoid problems of the scale, do not leave the battery with no power in the battery seat.
(Dry battery)
- ◆ The rechargeable battery in the scale is affiliated by our factory to examine the operation of the scale. Therefore, the longevity of the battery should not be calculated from the day you bought our product.



CHAPTER 3 DISPLAY








- ◀ 1 : “Tare” indication.
- ◀ 2 : “Zero” indication.
- ▶ 3 : the 1st unit indication.
- ▶ 4 : the 2nd unit indication.
- ▶ 5 : the 3rd unit indication.
- ▶ 6 : the 4th unit indication.
-  : “Low Battery” indication.



CHAPTER 4 KEYPAD FUNCTION



4-1. Explanation of Keypad

1.  : The key to switch the scale off.
2.  : ON/ZERO key. When the scale is off, press the key to switch it on. When the scale is on, with the platter empty, if the display is not showing zero, press this key to zero (balance) the scale.
 - ❖ Zero range: $\pm 2\%$ of full scale (Standard, OIML & NTEP models), $\pm 4\%$ of full scale (Sri Lanka model).
3.  : TARE key. Press the key to deduct the weight of the container.
 - ❖ The tare key is not functional when the weight value shown on the display is negative or over the full scale capacity.
4.  : Units key. Press the key to select the desired weight units or count units (pcs).
5.  : Gross weight / Net weight key. (The key is ONLY functional in the Tare mode)
When “GROSS” appears, the gross weight = Tare weight + Net weight
Except Gross weight / Net weight key, all other keys are not functional at this moment.




4-2. Basic Function Operation




4-2-1 ON / ZERO

1. When the scale is off, press  key to turn the scale on.
2. When the scale is on and without any object placed on the platter, press  key to obtain a zero reading. “◀” the 2nd indication shows at the left hand side of the display.




4-2-2 UNITS SELECTION

Press the  key to select desired units, “▶” the indication will show at the right hand side of the display. After power off, the scale will memorise the enable units. When the scale is powered on again, it displays the previous enable units.

4-2-3 TARE













1. Place the container on the platter. After stable, press  key to deduct the weight value of the container.
 2. Place the object in the container, the scale will show the net weight value of the object.
 3. Remove the container and weighing object, and the display shows the negative weight value of the container. Press  key to clear the weight value of the container, and “◀” the first indication goes off.
- ❖ Tare continuously (Press  key, when weight is added or deducted on the platter).
 - ❖ Tare value = The full capacity (The scale can be tarred continuously to the full capacity).

4-2-4 NET / GROSS

1. In the tare mode, the display shows “◀” the 1st indication at the left hand side.
Press  key to show the gross weight value, and “◀” the indication goes off.
2. Press  key again, the display shows the net weight value and “◀” the 1st indication shows again.
3. The  key is ONLY functional in the tare mode.



4-2-5 COUNTING MODE

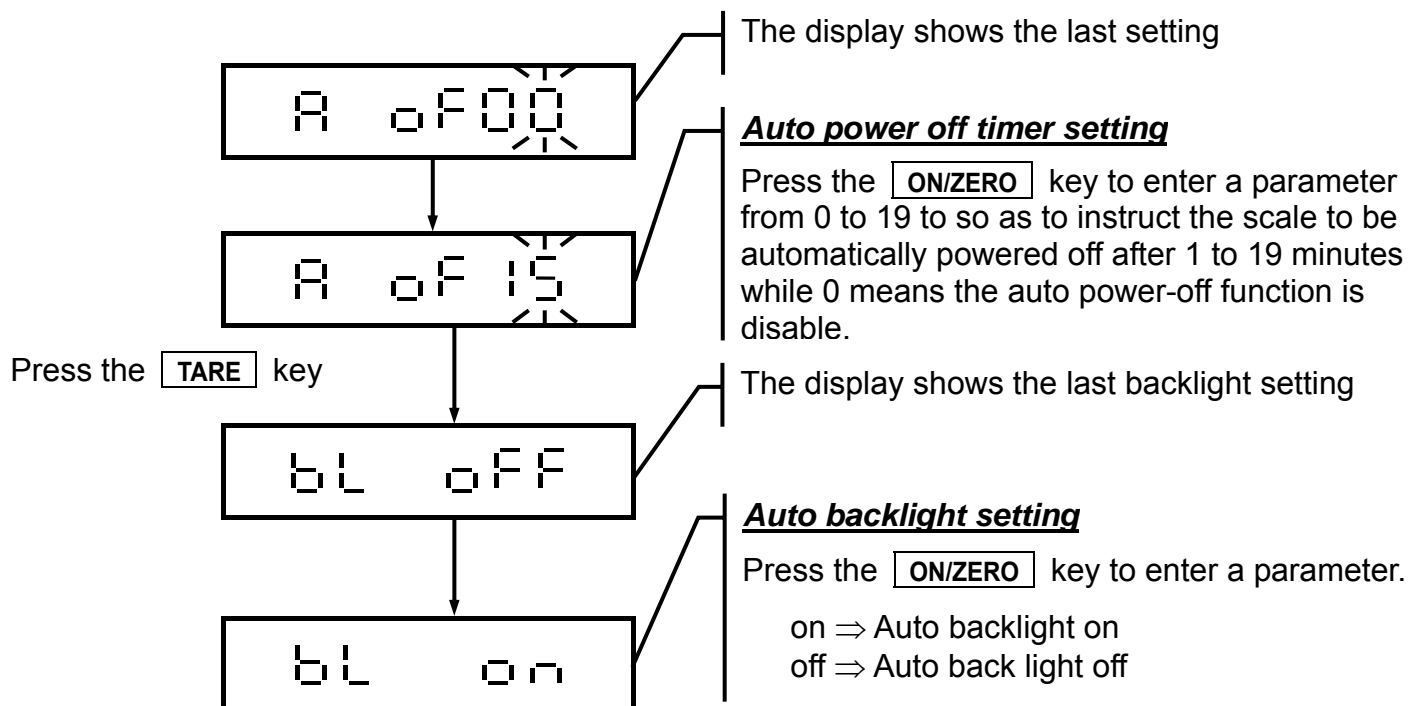
1. Press   key to select piece unit (pcs), and enter the counting mode.
 2. Press   key to select the counting sample size 10, 20, 50, 100, or 200, and the display shows , , , , or 
 3. Place the samples on the platter, then press   ,the display shows “- - - -”. After the weight is stable, the scale shows the quantity of the samples. After the sampling process is complete, put the goods on the platter and the screen shows the quantity of the goods.
- ❖ The scale memorizes the selected sample quantity, after turning off the scale. The scale will show the same selected sample quantity, when entering the counting mode next time.
 - ❖ If the quantity of the items weighed is higher than 65 536 (pcs), the display shows the error message “ L ”.



CHAPTER 5 ADVANCED FUNCTION SETTINGS

5-1 Auto Power off and Backlight Settings

Switch on the scale, press   keys together to enter the advance function setting mode. The display shows **A 0F00** .



ON/ZERO ⇒ Increment digit (from 0 to 9)

TARE ⇒ Confirm / enter key

NET/GROSS ⇒ Move the cursor to the right

Automatic power-off function

When the weight on platter is less than 10d or remains steady for the set time, the scale will automatically switch off.

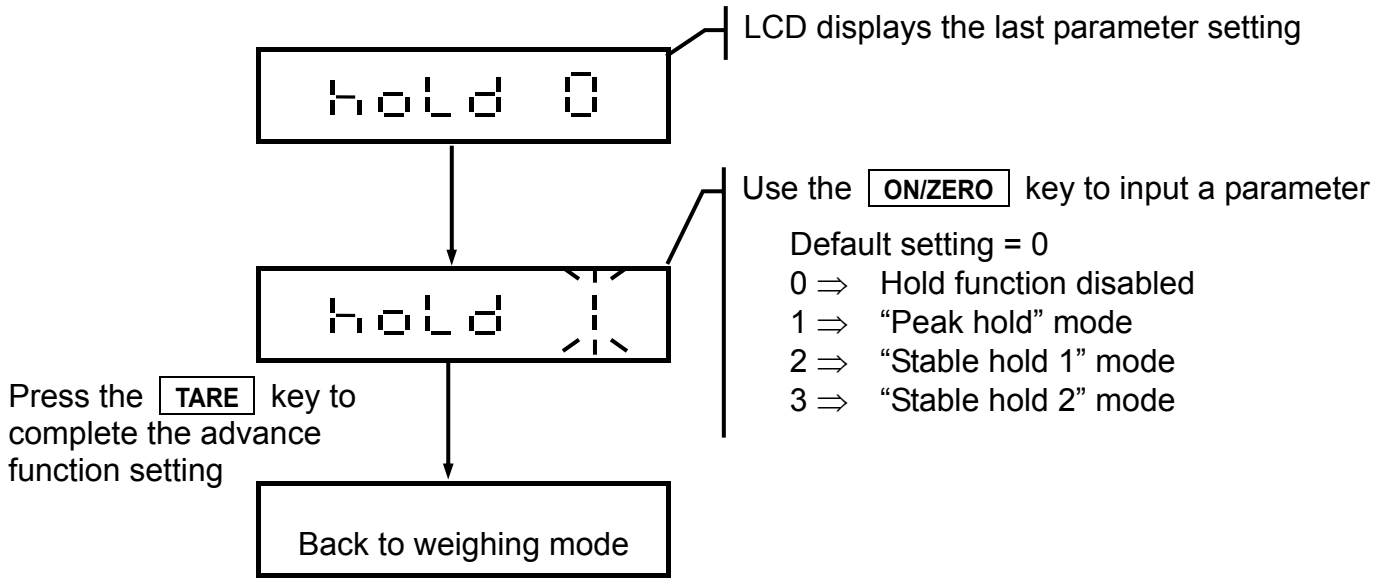
- ❖ Automatic power-off is not functional, when using an ac adaptor as the power source. Therefore, auto power-off is **ONLY** enable, when using dry batteries as the power source.

Auto Backlight Function

When the weight is over 10d, the backlight is on. After the weight is stable for 10 seconds or when the scale returns to zero, the backlight switches off.



5-2 Hold Function Settings



ON/ZERO	⇒ Increment digit (from 0 to 9)
TARE	⇒ Confirm / enter key
NET/GROSS	⇒ Move the cursor to the right

hold 0 = Hold function disabled.

hold 1 = “**Peak hold**” mode
 The scale shows the maximum weight value detected from the continuously changing weight values. Press any key to exit the hold function.

hold 2 = “**Stable hold 1**” mode
 After the scale is stable, the display shows the current weight value. Press any key to exit the hold function.

hold 3 = “**Stable hold 2**” mode
 After the scale is stable, the display shows the current weight value. Re-zero the scale to exit the hold function.

**APPENDIX 7-SEGMENT DISPLAY CHARACTERS**

Number	Display	Letter	Display	Letter	Display
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
		M		Z	

