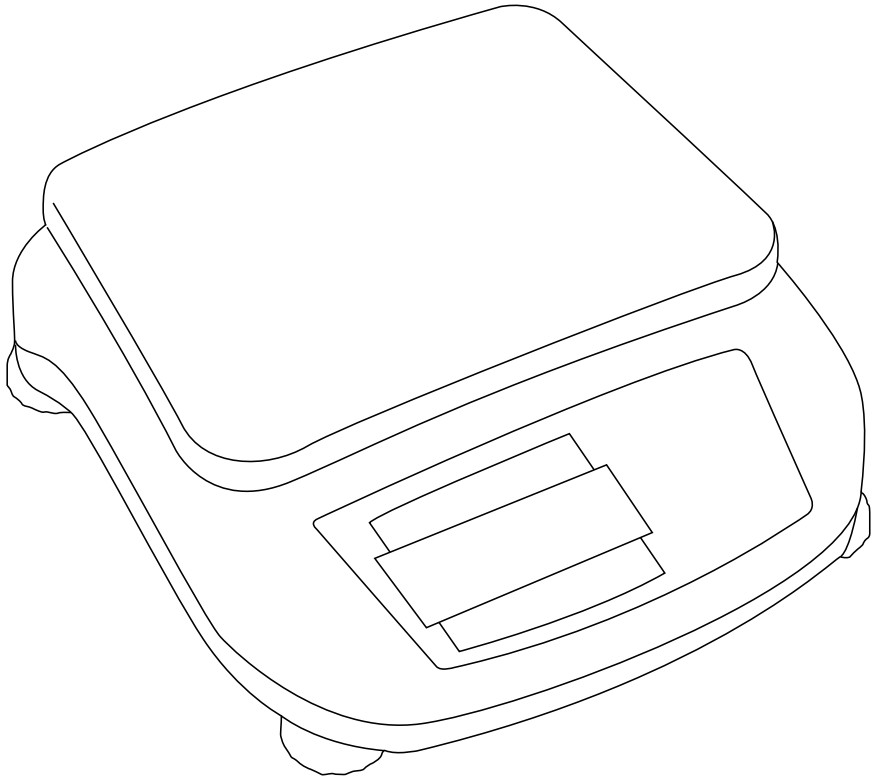
SERIES

EM

10K / 20K / 30K



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USER MANUAL

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ENGLISH

EM series industrial precision balance work on high precision strain gauge load cell which implements high speed stabilization and high reliability.

SPECIFICATIONS

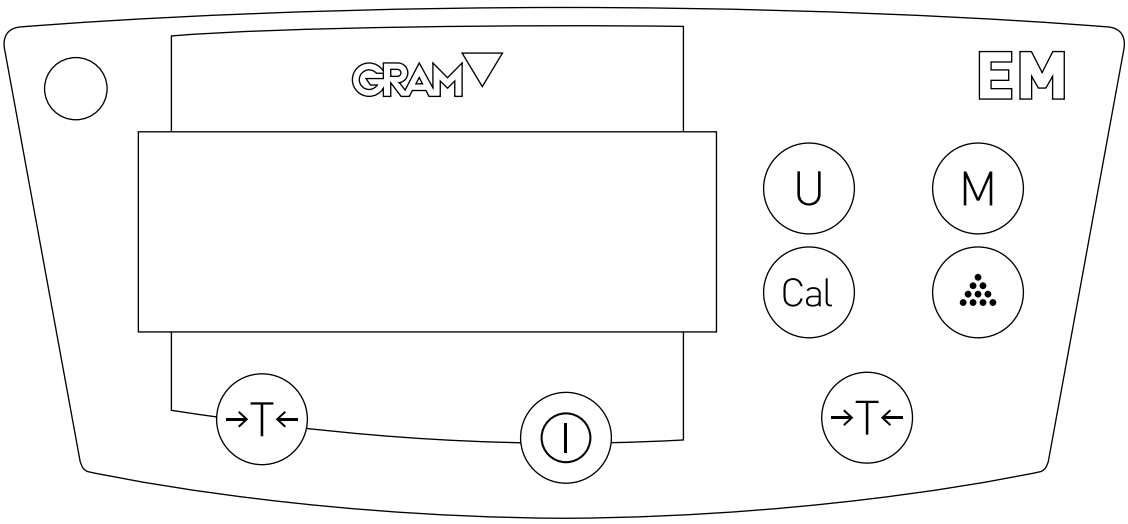
Model No.	EM-10K	EM-20K	EM-30K
Máx. Capacity (g)	10kg	20kg	30kg
Tare Range (g)	10kg	20kg	30kg
Readability (g)	0.1g	0.1g	0.1g
Repeatability (g)	+/-0.1g	+/-0.1g	+/-0.1g
Non-Linearity (g)	+/-0.2g	+/-0.2g	+/-0.2g
Corner Error (g)	+/-0.2g	+/-0.2g	+/-0.2g
Pan Size (mm)	337 x 237mm		
Dimensions (L x W x H)	370 x 370 x 125mm		
Power supply	AC110V-220V Rechargeable battery 4V/4AH		

Operating temperature range: 5-35 ºC / Moisture: 50-85%.

FEATURES

- High Precision Loadcell.
- Rugged Plastic Housing.
- Big size Stainless Steel Platter.
- High contrast easy to read LED display.
- Built-in rechargeable battery.
- Height adjustable feet.
- Full Capacity Substraction.
- Fast response.
- Overload Protection.
- Below balance weighing facility.
- Selectable measure units, kg, lb, g.
- Checking Weighing, piece counting function.
- RS232 Interface.

KEYBOARD



OPERATION KEYS

Key		Descripción
⏻	**[On/Off]**	On / Off
⁂	**[Cou]**	Counting
→T←	**[Tare]**	Tare
U	**[U]**	Unit conversion (g/lb/kg)
Cal	**[Cal]**	Calibration
M	**[M]**	Menu

Assembling

Unpack the package, put the platter on the top of the loader.

Put the balance on a steady flat surface away from vibration, direct sunshine ,air blow or strong magnetic disturbance.

Battery locker is at the rear of the balance, turn on the locker to turn on the balance, please turn off the locker during moving or transportation.

Turn On The Balance

Connect the balance to power supply, keep the switch in the ON(-) status.

Press function key **[On/Off]** to turn on the balance, the balance will in turns display following figures:
8.8.8.8.8.8.
Battery Voltage U= Maximum capacity

Finally the balance stays in a standby state of showing 0g, 0.0g in the display.

Notice: the lasting time of --------- will be decided by the stability of the loadcell, thus, the balance must not be located in an unstable surface or in the wind blow. If 0 flashes in the display, it means the balance is not in a stable condition, calibration and counting operations is not allowed.

Calibration

The purpose for this operation is to calibrate the balance so as to achieve the best performance in case there is obvious tolerance error in weighing or the balance is located in different gravity due to different latitude.

It is suggested to warm up the balance over half an hour before calibration.

Remove all loads from the platter, press function key **[Tare]** to clear the readings to 0g ,0.0g.

Press and hold function key **[Cal]** for 3 seconds, release function key **[Cal]** when "---**CAL**---" is shown in the display, a figure of standard weight will flash in the display, put a standard weight on the platter accordingly, standby state "------" will be shown in the display for a few seconds before the standard weight figure is shown in the display, remove the weight, "------" standby state will remain for a few seconds before the balance enter stable weighing mode, showing 0g ,0.0g.

It is recommended to make the operations twice to achieve the best calibration result.

Weighing

When the balance is warmed up and calibrated, 0g,0.0g is shown in the display indicating weighing mode, put the object on the platter, when stable, the weight of the object is shown in the display.

Taring

When a loader is put over the platter, its weight is shown in the display, press function key **[Tare]** , 0g, 0.0g will be shown in the display, indicating the weight of the loader is deducted, put the object into the loader, when stable, the figure shown in the display is the weight of the object.

Piece Counting

Remove all loads from the platter, press function key **[Tare]** to clear the readings in the display, press function key **[Cou]** to enter counting mode, figure 10 (default sampling quantity) will be shown in the display, weighing unit changes from **g** to **pcs**, put 10 samples on the platter, press function key **[Cou]**, the balance will show "-----" before it shows 10 pcs in the display, the balance enters counting mode.

Notice: In counting mode, the weight of the sampling objects should be even, the weight of the individual sample should not be less than the division of the balance.

Return to Weighing Mode: Press function key **[Cou]** to return to Weighing mode.

Unit Conversion

Press function key **[U]** to change from weighing unit kg/lb/g, default weighing unit is set to g.

Overload

The weight of the objective cannot exceed the rated maximum capacity of the balance, when exceeding, "-------" will be shown in the display, remove the objective immediately from the platter so as to prevent damages to the balance.

Interface

RS232 Connection

Balance (9 pins) Printer/ PC (9 pins)

RXD(Input) 2----------3

TXD (Output) 3----------2

GND (Ground) 5----------5

Boardrate
Default Boardrate, 2400BPS, options 1200, 2400, 4800, 9600,19200, 115200
Boardrate setting,

Press and hold key **[M]** to show C3-X(X means the number). Then press **[Cou]** to choose different number.

When C3-2 shows, indicating 2400BPS

When C3-3 shows, indicating 4800BPS

When C3-4 shows, indicating 9600BPS

When C3-5 shows, indicating 19200BPS

When C3-6 shows, indicating 115200BPS

Release key **[M]** when the desired boardrate shows, press key **[Cal]** thrice to confirm set.
Data format, 10 bits, 0 as start bit, 1 as stop bit, 8 digits (ASCII code)
Rity bit, No.

Output Data Format

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type	Space	Space or "*"	+ /-	data	data	data	data or dot	data or dot	data	data	data	unit	unit	End	Return

Tips

Warming up is necessary before any operation is made to the balance.
In TARE mode, the value of the taring object cannot exceed the rated maximum capacity of the balance.
Calibration is necessary to ensure a reliable weighing.
Switch off the balance when it is not used.
It is suggested to turn the round platter clockwisely before take it off the balance.

MAINTENANCE

Trouble shooting and solutions

Phenomenon	Possible Reason	Solution
Upper Line - - - -	Over Load	Re-calibrate the Balance
Under Line_ _ _ _	Overload or loadcell broken	Re-calibrate the Balance
Err-1	Too frequently turn on and off the balance	Turn off the balance, resume it after 3 seconds
Err-2	The balance is not stablised	Wait for a few seconds for stabilization
	Low Battery	Charge or Replace Battery

PACKAGE

Discription	QTTY
Balance	1 pcs
Platter	1 pcs
Power Cord	1 pcs
Manual	1 pcs

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