

ES-HB Series Manual

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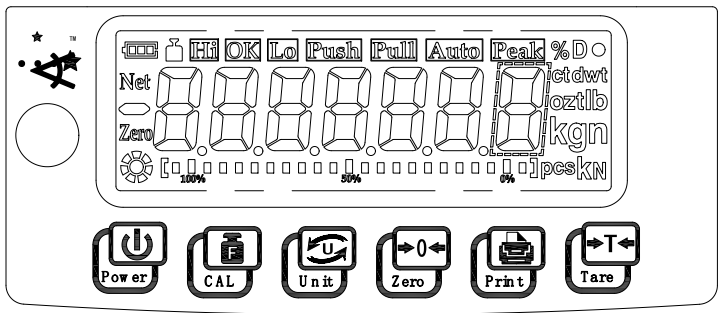
Thank you for purchasing and using the ES-HB series balances, The balances weigh and measure with high precision load cell, microcomputer and big liquid crystal display screen, which have the advantage of simple operation, speedy weighing, accuracy, stability, and so on, please read this manual carefully before using this product, in order to make full use of this product with the function and the Troubleshooting to help you.



1. Structure Diagram

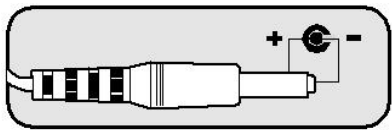


2. Display and Buttons



BUTTON	FUNCTION	ASCII CODE
Power	ON/OFF the machine	0x4F+0x0D+0x0A
CAL	Calibrate the machine	0x43+0x0D+0x0A
Unit	Exchange the units	0x55+0x0D+0x0A
Zero	Weight zero	0x4D+0x0D+0x0A
Print	Date print	0x50+0x0D+0x0A
Tare	Tare	0x54+0x0D+0x0A

3. Adaptor



DC 6V/200mA adaptor

4. Operation

4.1. ON/OFF the Machine

With no load on the platform, Put the round plug of AC adapter into the square hole on the back of the balance, then put AC adapter into an alternating outlet, or install 6 alkaline batteries AA SIZE in the battery holder at the bottom of the balance (pay attention to the Plus(+) and minus(-) ends), press the “Power” button to turn on the balance, and the balance will display the capacity and division, and then “0” will show, Press “Zero” to zero, and Normal weighing can be started on, Press “Power” to turn off the balance, It should be noted that the balance has an initial auto zero function, and the initial auto zero range is 20% of capacity, if beyond the range, it will show “ERROR”, that means initial auto zero failure.

4.2. Zero Operation

Under the non-net weighing state. Take away all objects from the platform , and press "zero" button to display "0", "zero" zero indicator appears, then put the objects on the center of the platform, when the unit symbol stop flashing, then the weight can be read. The maximum zero allowable range is $\pm 2\%$ of the capacity, if beyond the range, it will show “ERROR”, that means zero failure.

4.3. Tare Operation

Press "Tare" to tare, and the balance display “Net” symbol. If the current weight below zero point, press the "Tare" button will show "ERROR", That means tare failure. After entering the net weight, it will prohibit tare operation, otherwise appear "ERROR" and tare failure. If you want to exit the net weighing, remove the tare items, press "Zero" button, enter the gross weighing state.

4.4. Calibration

Important note: before calibrate, Please cut the calibrate seal rope and open the calibrate screws at the bottom of the balance, then pull calibrate switch which in the bottom of the balance to "cal", otherwise it is unable to enter the calibration procedure and display "error". After calibration, pull the calibrate switch to "LOCK" and tighten the screws, then sealed screw.

Take away all objects from the platform, and press "CAL" button, the balance enter auto zero calibrate, and then the balance display "Load" and calibrate weight value, according to the shown weight value, put the corresponding calibrating weight on the center of the platform. a few seconds later, calibrate is over. You can press "CAL" to exit calibrate at any time.

4.5. Counting Function (pcs)

When "pcs" unit is opened, Press "Unit" key switch to "pcs", and the balance enters the counting state. If you need resample for counting, please take away the object from the platform, and press "Tare" or "Zero" key, the balance will display "0", then press "CAL" key, "PCS=xxx" will display, "xxx" indicate the quantity value of samples, and press "CAL" key to change the quantity value, when the weight is no variety within 5 seconds, it will auto enter Counting sample and then counting weighing.

NOTE: If the balance displays "ERROR", that indicates the samples' weight is too light.

4.6. Percentage Setting Function

When "pcs" unit is opened, Press "Unit" key to switches to "%" and enter percentage weighing; if you need resample, please take away the object from the platform, and press "Tare" or "Zero" key to display "0", the press "CAL" key to display "PER=xxx", and "xxx" indicate the percentage value of sample, press "CAL" key to change the quantity value, when the weight is no variety within 5 seconds, it will auto enter percentage sample and then

percentage weighing.

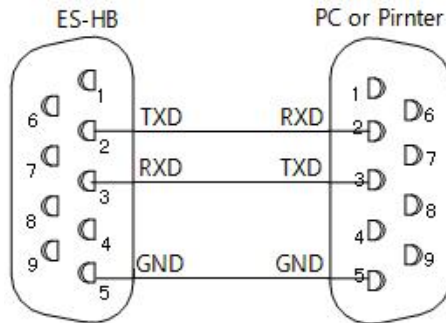
NOTE: If the balance displays “ERROR”, that indicates the samples’ weight is too light.

4.7. Unit Selection

This balance has the function to select these units: g、kg、ct、oz、ozt、lb、l、tl、dwt、gn、pcs、%, these units can be set to open and close, Press and hold “Unit” key until display “unit” symbol, the balance will show the above units, and at the same time the balance will display “On” or “OFF”, please “Unit” key to switch “On” and “OFF”.

5. RS-232C Communication

RS-232C RS232C interface: Connecting to PC or printer, Wiring diagram is as follows.



Baud rate = 9600bps, check bit = None, data bit = 8Bit, stop bite = 1Bit, input instruction format please read “Button” function; output data format: 4 bytes of steady state code (STAB or UNST) + “:” + 7 bytes of data code + 3 byte unit code + 2 byte end code, all the characters are ASCII code

6. Troubleshooting

SYMPTOM	PROBABLE CAUSE	REMEDY
No Display	①Power Adapter not connected. ②Batteries are dead.	①Connect power Adapter. ②Replace batteries
Display 	Batteries are weak	Replace batteries
Incorrect Weight Reading	①Balance was not set to zero. ②Balance has not been correctly calibrated.	① With no load on the platform, press "Zero" or "Tare" . ②Recalibrate the balance.
Calibration incorrect	Incorrect weights being used	Use correct weights to calibrate.
Err-1	Over load (105%)	Stop weighing immediately