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8301
ELECTRONIC BALANCE

Instruction Manual

PLEASE SCAN QR CODE TO WATCH THE OPERATION VIDEO OF PRODUCTS.

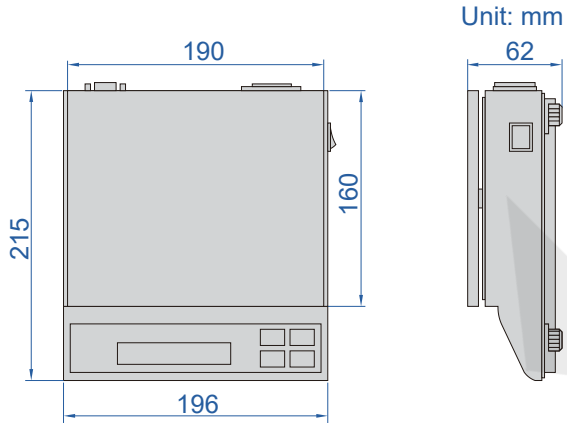
VIDEO

1.Features

1. Higher precision and sensitivity;
2. With automatic correction function;
3. With unit conversion function, you can switch between 'g' (gram) → 'ct' (carat) → 'ozt' (ounces);
4. The balance is equipped with a data output interface, which can be connected to the printer for data printing, and can be interfaced with the computer for data collection and statistics;
5. The balance has a counting function, which makes it easy for users to count large quantities of objects.

2.Performance

■ Dimension

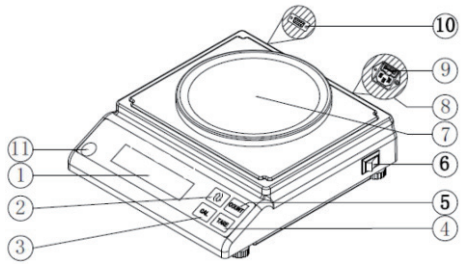


■ Specification

Code	8301-300	8301-600	8301-1200	8301-3000	8301-6000
Maximum weighing	300g	600g	1200g	3000g	6000g
Minimum weighing	0.2g	0.2g	0.2g	2g	2g
Resolution (d)	0.01g	0.01g	0.01g	0.1g	0.1g
Verification interval (e)	0.1g	0.1g	0.1g	1g	1g
Accuracy (m is load)	m≤50g: ±0.05g; 50g<m≤200g: ±0.1g; m>200g: ±0.15g		m≤500g: ±0.05g; m>500g: ±0.1g	m≤500g: ±0.5g; 500g<m≤2000g: ±1g; m>2000g: ±1.5g	
Weighing pan size	Ø135mm			190×160mm	
Operation temperature	0~40°C				
Operation humidity	≤80% RH				
Power supply	220V, 50/60Hz				
Dimension (L×W×H)	215×196×62mm				

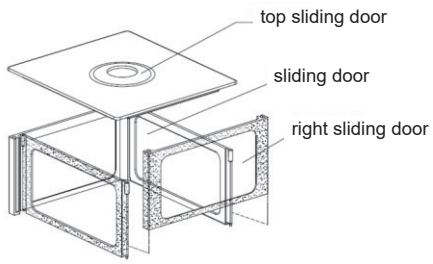
Note: 8301-300、8301-600、8301-1200 with calibration weight and windshield.

3.Structure



1. display window
2. composite key
3. calibration key
4. TARE key
5.count key
6. switch
7. weighing pan
8. power socket
9. fuse holder
10. 232 serial port
11. level

Attached: windshield and correction weight
(1) The windshield and the adjustment weight are matched with the 8301-300 to 8301-1200. The assembly method of the windshield is as follows:



4.Operation

■ Turn on the power, adjust the level, turn on the switch, the display window will display 'F----1' to 'F----9' and then '0' will appear.
Next, it should be preheated for 15 minutes, just turned on. It is normal to show drift, and it will be stable after a while.

■ 'TARE' —— Tare button:
If the display deviates from the zero pointin the case of an empty weighing platform, press the 'TARE' button to return the display to zero. To remove the tare weight of the vessel,first place the vessel on the weighing platform. After the value isstable, press the 'TARE' button, the balance will display '0', and then place the weighted items on the vessel. The number displayed at this time. For the net weight of the item, remove the item and utensil, and the value of the weight of the balance display, still press the 'TARE' button to return the display to '0'.

■ 'CAL' —— calibration button:
If the balance is newly purchased or not used for a long time, the balance should be corrected. First, the balance is fully warmed up in the case of the empty scale (15 minutes or more), then press the 'CAL' button to display the display. 'C XXX' enters the automatic calibration state. (XXX is the weight of the calibration weight. For example, 'C 200' is displayed, the standard weight of 200g should be placed). At this time, only the calibration weight must be placed on the weighing pan. After the balance is stabilized, the balance displays the weight value and displays the stable weight symbol 'g'.
The calibration is completed and normal weighing can be performed.
If 'CAL' is pressed to display 'C----F', it means the zero point is unstable. Press 'TARE' again to return the display to zero point, then press 'CAL' to correct. If the object weight is said to exceed the balance weighing range, the balance will display 'F----H' for warning.

■ 'COUNT' —— count button:
▲ Selection of sample quantity: To accurately count the object,first select the number of samples to be counted according to the weight of the object. The number of samples to be selected is '1-10-20-50-100', in order to avoid Counting error. When counting smaller objects and objects with slightly different weights, the number of samples should be as large as possible.
▲ In the case of an empty balance, place one or more samples on
the scale and the balance displays the sample Weight, then press the 'COUNT' button, the balance will display '1', and the “pcs” light on the right side of the display window will be on, indicating that the balance has entered the counting operation state, and the number of samples placed is counted as 1 Unit, if the sample size is not 1, press the 'COUNT' count button again, select the quantity that matches the selected sample quantity, and then place the same item, the displayed value is the total number of objects.To return to the normal weighing state, press the 'COUNT' count button again until the unit is not 'pcs' is fine.

■ Composite key —— unit conversion and print key:
For the specific setting method, refer to 'Setting method and meaning of electronic balance fifth point'. The factory default is unit conversion button;
▲In the balance weighing state, press the button to change between the three weighing units 'g' (gram), 'ct' (carat) and 'ozt' (ounce). At the same time, the right part of the display window The unit symbol light is on. (Note: 'g' is the metric weight unit, 'ozt' and 'ct' are all troy ounce units.)
▲Press the button to switch the number and weight display when counting.

■ Data output function
The balance is equipped with a standard RS232C data output interface, which can be directly connected to a 16-pin micro printer and a computer. If you need to interface with a computer, you should prepare the sampling software in the following format:
▲Communication protocol: Baud rate: 600-9600 can be set, the factory setting is 600; data bit: 8 bits; stop bit: 1 bit; no parity bit.
▲Output data: Press the print button once (print key setting see Appendix C5 setting) or the serial port receives a print command to output data once, the data is 14-bit ASCII code. Output data format: Output 14-bit data (ASCII code).

symbol	data	unit	enter	wrap
1 bit	8 bit	3 bit	1 bit	1 bit

When the data is not negative, the first digit is a space, and the data that is not displayed is output as a space.Example: When 123.45 g is displayed, the output data is □□□123.45□g□↓←.Display – 1234.5 g, the output data is -□□1234.5□g□↓←A total of 14 bits of data.
▲Receive command: You need to receive the corresponding pass signal first, and then receive the command. When the signal 27 (factory state) is passed, that is, 1B in hexadecimal, the command is as follows (data is hexadecimal):
1B 70: Print (requires the balance to send data once);
1B 71: calibration;
1B 72: counting;
1B 73: unit conversion;
1B 74: peeling;

▲RS232C output pin definition (DB9 socket (female)): 2 feet:
RXD 3 feet: TXD 5 feet: GND. When connecting with RS232C socket of computer or RS232C socket (DB9 socket (male)) of USB to serial cable, use the male and female cross line serial cable, the wiring is as follows:
2 —— 3
3 —— 2
5 —— 5
Attachment: Setting method and meaning of electronic balance:
Press the calibration key 'CAL' and then turn it on again. After the machine is turned on, it will be released and the balance will enter the setting state. Press the calibration key 'CAL' to change the parameter to be set (C1\C2\C3\C4\C5), press the tare key 'TARE' to change the parameter value (0\1\2\3\4\5\6) .
‹1› C1----Set sensitivity 0 1 2 3 4 The higher the value, the worse the sensitivity is. The better the stability, the factory setting is 2 or 1.

‹2› C2----Set the filter strength 0 1 2 3 The higher the value, the slower the reaction speed. The better the stability, the factory setting is 2 or 1.

‹3› C3----Set baud rate 0 (9600 automatic continuous output) 1 (9600 is automatically output after stabilization) 2(600) 3 (1200) 4 (2400) 5 (4800) 6 (9600), factory set to 2.

‹4› C4----Set the pass signal The TARE key changes the low value and the 'COUNT' changes the high value. This data is the first data received during communication. The factory setting is 27.

‹5› C5----Set unit conversion key function: 0 is the unit conversion key, 1 is the print key, the factory setting is 0.

‹6› After setting the above parameters, press the calibration key 'CAL' again and the balance will re-check out the zero.

‹7› Press the tare button 'TARE' and then turn it on again. After the machine is turned on and then released, all the setting parameters and calibration data can be restored to the factory state, and should be recalibrated before use.

5.Precautions

‹1› The use of the environment: indoor use, the highest altitude of 2000m, working temperature 0-40 °C, relative humidity ≤ 80% power fluctuations less than ± 10%.

‹2› The electronic balance is a precision instrument. When weighing, the object should be handled with care and avoid exceeding the maximum weighing range of the electronic balance. Any form of overload or impact may cause permanent damage to the electronic balance, even if the electronic balance is not energized. The same is true in the case of use.

‹3› The working environment of the balance should be free of large vibration and power interference, and no corrosive gases and liquids.

‹4› Ensure the warm-up time after power-on.

‹5› Should be handled gently in daily use, apply a clean dry cotton cloth when wiping.

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