

High Precision Balances



Operation Manual

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Soluciones de pesaje y
equipos para alimentos

I. Overview

KD-BN and KD-CN electronic balance is composed of high stability sensor and single-chip microcomputer intelligent scales. Peel fault display, since the present, weigh, count, and other functions. The scales weighing accuracy, high stability, high resolution and the operation is simple, functional, suitable for industrial, agricultural, commercial, school, hospital, research units to make a quick determination.

- (1) Baud rate : 1200bps, 2400 bps, 4800bps, 9600bps
- (2) Data bits : 8 bits
- (3) Parity bit : none
- (4) Stop bit : 1 bit
- (5) Code ASCII

DATA FORMAT:

HEAD 1	HEAD 2	DATA	UNIT	CR
1 2	3 4 5 6	7-17	18-23	24 25

II. Specifications and performance

Model	KD-BN						KD-CN			
	1103	2103	3103	11002	21002	31002	3102	6102	1100g	2100g
Max. range	110g	210g	310g	1100g	2100g	3100g	310g	610g	1100g	2100g
Peeling range	110g	210g	310g	1100g	2100g	3100g	310g	610g	1100g	2100g
Calibration division	e=10d	e=10d	e=10d	e=10d	e=10d	e=10d	e=10d	e=10d	e=10d	e=10d
Repetitive	±3d	±3d	±3d	±3d	±3d	±3d	±3d	±3d	±3d	±3d
Min. reading	1mg	1mg	1mg	0.01g	0.01g	0.01g	0.01g	0.01g	0.01g	0.01g



HEAD1 (2BYTES)

- US - unstable
- ST - stable
- OL - overload

HEAD2 (2BYTES)

- NT - net weight mode
- GS - gross weight mode

DATA (8BYTES)

- 2D (HEX) = " - " (negative sign)
- 20 (HEX) = " " (blank)
- 2E (HEX) = " . " (decimal point)

Transmission example

Ex. : stable net + 0.168 g

HEAD1, HEAD2, DATA UNIT CR
ST , NT ,+ 0.168 g 0D 0A

Display value inconsistent with the actual weight	The balance no calibration. Is not zero before weighing.	Calibrate the scale. Press “” key to clear the weight.
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Size scales	φ 92	125×145	φ 116	125 X 145
Scale dimension	270×200×265 (m3)		270×200×215 (m3)	
Overall dimension	332×253×335 (m3)			
Power	(A C 2 2 0 V ±10%50HZ±1HZ)			DC.8V
Temperature	5-35°C			

IX. Power

1. Power supply selection

- (1). 8V/600mA switching power supply
- (2). 6V 4Ah battery

2. When the battery voltage used to $5.8V \pm 0.15V$, low power light lights must charge. If you continue to use, display the numerical instability, the voltage drops to $5.1V \pm 0.15V$ Shi, the balance is automatically shut down into protected mode.

X. Parts

- | | |
|-----------------------|---|
| 1. Electronic balance | 1 |
| 2. Operation manual | 1 |
| 3. Scale pan | 1 |
| 4. Weight | 1 |

XI . Instructions of RS-232 communication

(optional)


1. Model EIA-RS232 C's UART signal
2. Format

III. Preparations

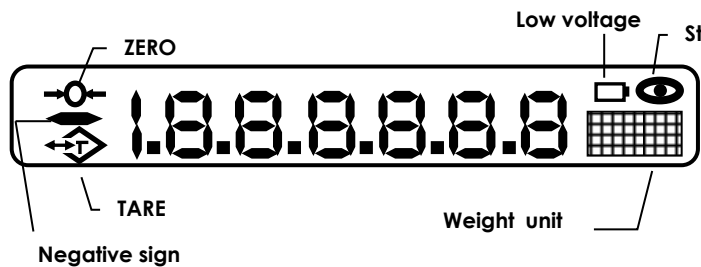
1. Remove screw balance sensor on the right of protection (Refer to instructions). Please cover adapter on the dust cover in the box, to check the windshield whether it works properly (no windshield exception). And gently into the scales (random accessories and save all packaging used in case the balance when the repair).
2. Please send electronic balances placed in the level, stability, vibration-free floor.
3. Avoid placing the scales in places with temperature, extreme and violent air flow, such as direct sunlight or air conditioning outlets

- 4. Or in the corrosive gases or liquids, and affect the normal work of instrument use electric and magnetic fields.
- 5. Level bubble in the center position, adjust the scale feet.

IV. Power on the scales

Plug the external power supply or fit 8v Battery, press  button Opening balance, balance in the boot process will enter the self-test for some time, after the end of the self into the weighing mode. Balance enter the preheating State at this time. Preheat the balance 30 minutes , balance calibration results in more accurate.


V. Explanation of display parts



VI. Operation

After power on the scales, it will go into the weighing mode.

1. Calibration

On the platform without any case , Press and hold  key not loosely , until the window display " CAL " and you



VII. Warning message



When the display shows “ ” and beep out a warning, it means that the balance is overloaded. Please remove the object from the pan immediately so as to avoid damage to the load sensor inside the balance.



VIII. Failures and trouble shooting

Failures	Reason	Trouble shooting
No display.	No connected to power supply. Battery voltage or battery has enough bad.	Connect the power cord. Charging or changing the batteries.
The display is	Poor work environment. Storm door not closed. Foreign objects or touch scraper. No flat the platform. Preheat the scale not enough time.	Remove screw for sensor protection. To improve the working environment. Observation of the windshield and rotate the scale pan to observation of collision-free. Preheat enough time specified.

setting " ZN 1.0d ") .

(4) The third step is set after the end of the screen displays " BAUd12 " or" bAUd 24 " or the" bAUd 48 " or" bAUd 96 " , enter the baud rate selection,  Keys to select, use  button to confirm. (Factory-set " bAUd 96 ")




(5) ,After the fourth step the screen displays " Co "(Stable sending) or" St "(Continuous send) or" pr "(Press send), entering the communication mode selection.  key to select, and then use  button to confirm. (Factory-set " Co ")

(6) Then the display window shows " BL OFF " (Backlight normally closed) Or " BL ON " (Backlight always open) Or " BL AUTO " (Test weight automatic backlight) According to  key to select the appropriate parameters, press  button to confirm (factory settings " BL ON ")(Applies only to LCD)





Soluciones de pesaje y equipos para alimentos

8. Single and double range setting

Hold down the  keys and then press the power key to boot. After the end of self-test, enter the single and double range settings. Display window shows " SIn " (single range) or " dbL " (double range), by  key to select the appropriate parameters, press  button to confirm. (Factory-set " SIn ")

can loosely immediately.

After that, the display flash the value of standard weights, available  key change Flash bit, with  key change flash bit of numerical.


When you keychain the calibration weights value , put the coordinate weights on the platform. Waiting number seconds (no digital Flash), is correction end. If calibration of weighing is still not accurate, then repeat the above process calibration times.

2. Weighing

(1) After power on the scales or calibrate , it will go into the weighing mode and the display will show " 0.000 " or " 0.00 " .



(2) Reset the object on scales , Displays the object's mass.


(1) Place container on the platform, and the display will show the container weighing value.

(2) By  key , Show " 0.000" Or "0.00 " , after been peeled.


(3) Put objects in the container, that show the object's mass.

4. Counting

(1) By  key, at this time the display will show "CA 10 PCS" . Then continuous press  key, can cycle


select 10 , 20 , 50 , 100 ,200 , 500 and 1000 seven species sampling number. After you select determines the number of sampling, display values placed on the scales and on samples corresponding to the number, press  button to confirm. Sampling is completed, and you can start to use the count function.

(2) If single weighing is insufficient the sample screens will display " Err ”.



(3) Sampling when finished entering the count function, if you want to resample you can press  key to return the first action and start over.



(4) Count mode press  button to return to the weighing mode.

5. Units





By  Key , press once to indicating lamp in the order will be delighted , " CT " (gram) , " OZ " (oz) , " OZT " (Troy ounce) , " g " (gram) , which different weighing units will be displayed according to user needs.



6. Filtering



Hold down the  key and press  key to boot. Since checking into the filter parameters set at the end. At this time display window may display " nb0 " or " nb1 " or " nb2 "

or " nb3 " or " nb4 " (parameter " nb0 " → " nb4 " respectively said reaction by slow → fast). You can press  key to select the right filter parameters, press  button to confirm. (Factory-set " nb2 ")

7. Zero and communication

(1) Press the  key and then press  key to boot it. After self-test, it will enter the zeros-tracking setting. At this time, the window display " 0.0d "Or" 0.5d "Or" 1.0d" Or" 1.5d "Or" 2.0d "Or" 3.0d "Or" 4.0d "Or" 5.0d " , Click  keys to select the appropriate parameters, press  button to confirm. (Factory setting " 2.0d ")

(2) After the end of the first step, go into the -15 division value function. The window will show " -15d on "(This function is valid, that is, gross weight of negative 15 division value within the range of the display window always displays zero) or " -15doff "(This feature is not available), by  key to select the appropriate parameters, press  button to confirm (Factory setting " -15doff ") .

(3) After the end of the second step, enter the peeled tracing settings. The window shows " ZN off "(No peeling track) or" ZN 1.0d "(Peel mode, net zero, with ± 1.0d Tracking) or " ZN nd "(In Peel mode net weight is zero has zero-tracking range-with peeling Tracing), by  key to select the appropriate parameters, press  button to confirm (factory

