

## Operation instructions of touch screen interface of ZR1403 weighing instrument

### 1. Startup screen



### 2. Main screen

**Formula:** displays current production formula number

**Specification:** target amount of weighing

**Counter:** cumulative production quantity

**Zero Point:** current weight is close to zero point

**Fast feed:** big vibration feed stage (fast feed is not available in auto mode)

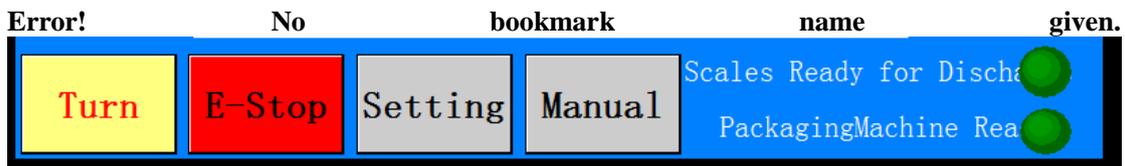
**Medium feed:** medium vibration feed stage

**Slow feed:** slow vibration feed stage

**Finish:** weighing ends up and the material can be discharged

**Settle:** the scale is in dynamic settling state

**OFF** Secondary switch of each scale



**Stop:** master switch of all scales, when this switch is turned on, if the secondary switch of each scale is in ON state, then this scale begins to weigh.

When this switch is turned off, the each scale finishes weighing, and this scale is turned off.

**E-stop:** when pushing this button at any moment, all the scales will stop working.

**Anti-block switch:** anti-block motor for opening and closing of tertiary scale.

**Discharge ready:** the weighing finished signal of scale

**Packaging machine ready:** discharge request signal of packaging machine.

### 3. Manual interface

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## Double Head Weighing Machine - 5<sup>th</sup> Generation

Each scale has manual operation interface, which can be switched through the switchover pushbutton.

**Target amount:** target weight to be weighed

**Coarse metering:** fast advance gate-off value under big vibration mode.

**Medium metering:** medium speed advance gate-off value under big vibration mode.

**Overshoot:** drop value

**Positive deviation:** used to set the allowable range of positive deviation from target amount

**Negative deviation:** used to set the allowable range of negative deviation from target amount

**Big vibration fast speed:** fast speed value [0~5.00V] under big vibration.

**Big vibration medium speed:** medium speed value [0~5.00V] under big vibration.

**Small vibration fast speed:** fast speed value [0~5.00V] under small vibration.

**Small vibration medium speed:** medium speed value [0~5.00V] under small vibration.

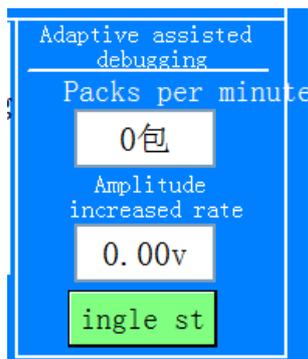
**Small vibration slow speed:** slow speed value [0~5.00V] under small vibration.

**Fast feed time:** the time used for fast feed.

**Medium feed time:** the time used for medium speed feed.

**Slow feed time:** the time used for slow feed.

**Fixed value time:** the time used for stability judgment at the end of feed.

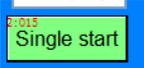


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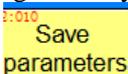
### Method of self-adaptation auxiliary debugging:

Self-adaptation auxiliary debugging helps the user to find out the best weighing parameters at fastest speed.

**Specific operation:** when the scale is used to weigh different kinds of material, in the first time debugging, set the target amount, positive and negative deviation, the number of packs per minute, the voltage rise rate [don't set the voltage rise rate too big, generally the value of 0.02V-0.05V is

suitable for most of weighing cases], push the key  and wait for a few seconds, then the weighing controller will first look for the small vibration amplitude automatically and overshoot, and then find the big vibration amplitude and medium metering, after finishing the finding, the scale will stop working, at this time all the weighing parameters have been found, open the bucket to discharge the material [the operator may also not discharge the material, if the weight at this time is less than the target amount, he can press the E-stop button and then press the start button, weigh this pack until the target amount is reached], and then restart the scale to finish the weighing of a pack, view the time used for the whole process and accuracy, if the time is too long and the accuracy is poor, he can also adjust advance amount and amplitude value according to his experience. If he does not make adjustment, then the scale will adjust the weighing speed according to the set speed automatically, but it may need to undergo a period of adjustment.

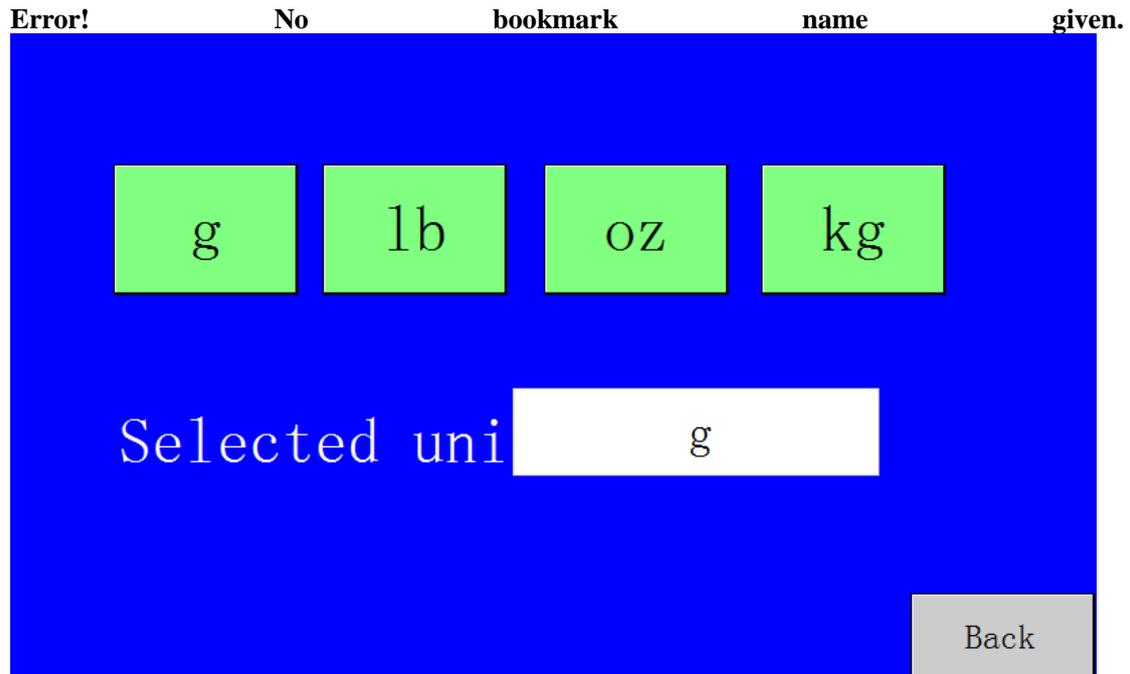
When the weighing accuracy and speed of all scales reach the set value, the operator can manually

press the button 

at this time; save the optimum parameters [the scale controller will also save the optimum parameters every four hours automatically according to the working time interval].

Note: the self-adaptation auxiliary debugging is only used for initial debugging of every kind of material, after the optimum parameters are found, they will be save in the formula and used next time, the operator just needs to adjust the formula number.

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**Start delay time:** start delay time of the scale, this parameter can be set as 0 if it is not used.

**Start comparison disable time:** the weight comparison disable time after the fast feed starts (in manual mode). Weight comparison is valid after this set time is over.

**Comparison disable time after fast feed:** after the fast vibration feed finishes, because of jittering of the scale body, by adding this time, the jittering can be shielded. But this time cannot be set too long, if it is set too long, it is easy to cause overshoot.

**Comparison disable time after medium feed:** after the medium vibration feed finishes, because of jittering of the scale body, by adding this time, the jittering can be shielded. But this time cannot be set too long, if it is set too long, it is easy to cause overshoot.

**Fixed value time:** because of drop time of material in the air and jittering of the scale body, by adding this time, the operator can let the scale judge the weight after the scale body becomes stable, this time cannot be set too long, too long time will affect the speed, the best set value is preferably in the range of 0.5 ~ 1 s.

**Discharge time:** positive opening time of bucket opening stroke

**Discharge holding time:** duration of bucket opening for discharge

**Bucket closing longest time:** the bucket stroke stops after the longest time when it has not met the proximity switch.

**Job compensation time:** the longest jog time during the material supplement.

**Bucket opening mode:** 0--motor rotates for one turn, 1—motor moves forward and reverses, 2--standby

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**Number of sliding filter times:** The filtering depth parameter of secondary filter, the bigger it is, the more stable the weighed weight, but the slower the response time is.

Generally using default value of 16 is ok.

**Zero clear range:** when the weight is within this range, zero clear operation can be executed. The unit is d, the minimum division value. If it is set to 200d, and the instrument weight is displayed as 0.1g division value, then the zero clear range is 20g.

**Zero tracking range:** When this function is enabled, if the weight is stable and lasts for 0.5s in this set range, then the weight is reset. When it is set to 0, zero tracking is disabled.

**Dynamic tracking range:** when this function is enabled, if the weight is stable and lasts for the dynamic tracking time in this set range, then the weight is regarded as stable.

**Dynamic tracking time:** The time for judging dynamic stability, the longer it is, the time required for judging stability is; and the shorter it is, the time required for judging dynamic stability is.

**Auto zero correction period:** used to set to correct zero value once how many times.

**Weighing mode:** 0--manual mode, 1--standby, 2--auto mode

Auto supplement mode: 0—No compensation, 1—compensation once, 2—continuous compensation

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Parameter setting-2

Filter rating	<input type="text" value="0"/>	num	Weighing mode	<input type="text" value="0"/>
Zero range	<input type="text" value="0"/>	d	Automatic feeding m	<input type="text" value="0"/>
Zero tracking range	<input type="text" value="0"/>	d		
Dynamic tracking range	<input type="text" value="0"/>	d		
Dynamic tracking time	<input type="text" value="0.00"/>	s		
Weight limits the number of comparisons	<input type="text" value="0"/>	num		
Automatic zero correction cycle	<input type="text" value="0"/>	s		

**Instrument calibration:**

**Current mV value:** voltage of sensor, mV

**Current weight:** Current weight of weighing controller

**Calibration weight:** target weight to be calibrated.

Meter 1 calibration

AD

Current Weight  g

Calibration Weight  g

**Calibration method:**

1. Empty the hopper, keep scale body under steady state, and click zero calibration. When calibration done appears, it is considered that zero calibration is successful. 2. Input target amount to be calibrated in the calibration weight box, put poises on the scale, when the scale body becomes steady, click weight calibration, the calibration process is finished when calibration done appears.

No.	Calibration error message	Elimination method
1	Scale is unstable	1. Scale body sways, 2. Sensor wiring error, 3.

## Double Head Weighing Machine - 5<sup>th</sup> Generation

		Sensor damage
2	Division value is too small	1. Division value is set too small
3	Error range	1. Output mV value of sensor is too large or too small, 2. Sensor damage
4	Measuring range is too small	1. Calibration range is too small 2. Sensor damage
5	Calibration weight is not integral multiples of division value	The division value is 1, 2, 3, 5; the calibrated weight is not in integral multiples of division value.

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<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Target</td> <td style="width: 15%;">Coarse</td> <td style="width: 15%;">Medium</td> <td style="width: 15%;">Fine</td> <td style="width: 15%;">Positive Deviation</td> <td style="width: 15%;">Negative Deviation</td> </tr> <tr> <td style="text-align: center;">0.000 g</td> </tr> <tr> <td>Big fast(V)</td> <td>Big Medium(V)</td> <td>Small fast(V)</td> <td>Small Medium</td> <td>Small Slow(V)</td> <td></td> </tr> <tr> <td style="text-align: center;">0.00</td> <td style="text-align: center;">Recipe of Scale 1#</td> </tr> </table>					Target	Coarse	Medium	Fine	Positive Deviation	Negative Deviation	0.000 g	Big fast(V)	Big Medium(V)	Small fast(V)	Small Medium	Small Slow(V)		0.00	0.00	0.00	0.00	0.00	Recipe of Scale 1#					
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<div style="border: 1px solid black; padding: 5px; display: inline-block; background-color: #ffff00;">Save parameters</div>			<div style="border: 1px solid black; padding: 5px; display: inline-block; background-color: #cccccc;">Back</div>																									

**Formula No.:**

Weighing parameter formula of instrument, 8 formulas can be saved

**Number of positive deviation times:** when automatic adjustment mode is used, if the number of continuous positive deviation times is equal to the number N of set positive deviation times, then automatic adjustment is performed at the time of N+1.

**Number of negative deviation times:** when automatic adjustment mode is used, if the number of continuous negative deviation times is equal to the number N of set negative deviation times, then automatic adjustment is performed at the time of N+1.

**Drop correction range:** when automatic adjustment mode is used, if the error is in the drop correction range, the drop adjustment will be performed.

**Drop correction amplitude:** when automatic adjustment mode is used, if the error is in the drop correction range, the percent of error value is adjusted.

**Starting mode:** 0—the weight must be close to zero point each time when the scale is started.

1—the weight may not have to be close to zero point each time when the scale is started.

**Fixed value mode:** 0—stability judgment value, 1—delay fixed value

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Material cleaning interface:

When it is needed to empty the material in the material bin, this function can be used.

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**Data record:** every scale has data recording function, which can be viewed and exported using movable U disk.