|  |  |  |
| --- | --- | --- |
| ! |  | Instruction Manual of Electronic Scale of Shanghai Sunmi Technology Co., Ltd |
|  | Instruction Manual of Electronic Scale |
| 1.**Parameters of electronic scale** |  |  |  |  |
|  |  |  |  |
| Host-based |  | S2 |  |  |
| Range |  | 15Kg |  |  |
| Number of divisions (precision grade) |  | 3000（C3） |  |
| Verification scale interval |  | e=d=2/5g |  |  |
| Creep（%FS/30min） |  | ±0.0167 |  |  |
| Safe overload（%FS） |  | 150 |  |  |
| Failure overload（%FS） |  | 300 |  |  |
|  Operating temperature（℃） |  | 0-40℃ |  |  |
| Electronic level calibration |  | supported |  |
| Precision |  | <6Kg precision 0.002Kg； |  |  |
|  |  | 6Kg to 15Kg precision |  |  |
|  |  | 0.005Kg |  |  |
| 2. Measurement quantity related basic knowledge |  |  |  |  |



**Boot zero point/zero clearing**

After the power on of the electronic scale weighing AD system, read the weight quantity signal and save it as the reference point of boot, namely the boot zero point.

**Manual zero clearing**

After the electronic scale has obtained the boot zero point, if an article with a range less than 2% of full range is placed on the scale pan, it can be cleared with a command, with a weight quantity of 0.

**Tare weight**

 Tare weight is applied for goods with package. The weight quantity of the package should be excluded when calculating the price. At this time, you may first place the package onto the scale pan, conduct the tare removal operation. Then the weight quantity of the package is namely tare weight. You may also directly input the set package tare weight without weighing.

Weigh with tare removal

Carry out the tare removal operation by way of weighing. Place the article package onto the scale pan and remove it as tare weight. Then the net weight should be 0 and the tare weight is the package weight quantity. After the tare removal operation, to enable the subsequent goods to be without tare, the current tare weight should be removed, and the tare weight after tare removal is 0.

Digital tare removal

Tare removal operation with direct setting input without weighing

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Note: the input tare weight must be the integer multiples of the division value, multiples of two as for the first measurement range, and integer multiples of five if the first measurement range is exceeded, otherwise it will not conform to the measurement quantity laws & regulations. Thus AD plate will automatically convert it to a reasonable value.

**Net weight**

The goods weight quantity that the consumer really needs to pay for. If the goods are with package, it is required to remove the package as tare weight.

 Gross weight

 Gross weight is tare weight plus net weight.

Note: about the division value: the division of the first quantity range 6 kg is 2 g, and that of the second quantity range 15 kg is 5 g.

1. **Software development for the electronic scale**
	1. How to correctly read the weight quantity

|  |  |  |  |
| --- | --- | --- | --- |
|  Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.350 |  0.000 |  920.00 |  322.00 |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |  4771 special grade Dragon Well |

It is required to list the real-time status of the scale on the main screen, for example: “Stable”, “Net weight”, “Zero position”and the unit price & total price of the goods; and the name of the selected goods is displayed at the same time.

Note: a. All the above information should be displayed on the second screen synchronously.

 b. If the required elements are not displayed, the requirement of the measurement quantity laws & regulations will be violated, and the quality supervision departments will carry out the investigate & treat.

1. How to correctly read the weight quantity
* After placing the tare weight article on the scale, it is allowed to carry out the price calculation & amount accumulation only after the weight quantity is “Stable”.

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.350 |  0.000 |  920.00 |  322.00 |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |  4771 special grade Dragon Well |

* After placing the tare weight article on the scale, it is allowed to carry out the tare removal operation only after weight quantity is stable (the zone bit is lit).

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.350 |  0.032 |  920.00 |  322.00 |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |  4771 special grade Dragon Well |

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* After the tare removal operation, it is allowed to carry out the operation of reading weight quantity only after the appearance of net weight prompt (the zone bit is lit).
* When the weight quantity is underloaded or overloaded, the “Stable”,“Net weight”, “Zero position”prompts are required to be all lit to give warning, and the underload & overload status are required to be prompted with special shapes.

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.350 weight underload weight overload |  0.000 |  920.00 |  322.00 |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |  4771 special grade Dragon Well |

* When the weight quantity is not stable, the zone bits of “Stable”,“Net weight”, “Zero position”should not be lit, and must all go out.

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.346 |  0.000 |  0.00 |  0.00 |
| Real-time status |  Please enter goods |
|  Stable Net weight Zero position |   |

* When the weight quantity is invalid (the weight value has not been read), the “Stable”,“Net weight”, “Zero position”prompts should be all lit to give warning.

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|   |   |  920.00 |   |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |   |

* There must be tare removal key and zero clearing key on the software interface of the function key

|  |  |  |  |
| --- | --- | --- | --- |
| Weight (kg) |  Tare weight (kg) |  Unit price (yuan) |  Total price (yuan) |
|  0.350 |  0.000 |  920.00 |  322.00 |
| Real-time status |  Goods with weight recorded |
|  Stable Net weight Zero position |  4771 special grade Dragon Well |
|  Open line box 3 6 9 RemovalMultiply Tare removal Zero clearing Print Confirm  |

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* 1. Points for attention
		+ After the software’s boot and entering the interface, the basic information specified by the measurement quantity laws & regulations shall be displayed by reference to the above screenshot.
		+ Each time before the goods weighing, it shall be all confirmed whether the current status is stable zero position or not, otherwise the “Zero Position”operation shall be first carried out.
		+ When weighing the goods and accumulating it into the sales list, the current weight quantity must be stable. If the current weight quantity is not stable, it is suggested to still display the hopping weight quantity and wait for the stable status. Once it becomes stable, the wait will be automatically ended and this deal will be accumulated.
		+ After weighing the current goods, please confirm again whether the weighing has returned to zero or not before weighing the next goods.
1. Usage of the electronic scale service

 One.Usage

[Scale-service-lib.jar](http://ota.cdn.sunmi.com/DOC/resource/re_cn/S2/scale-service-part-lib-1.1.jar)

Bind Sunmi electronic scale service to obtain its relevant data

**Initialization**

ScaleManager scaleManager = ScaleManager.getInstance(context);

绑定(bind)sunmi service

scaleManager.connectService(newScaleManager.ScaleServiceConnection() {

@Override

publicvoid onServiceConnected() {

//服务绑定(service binding)

}

@Override

publicvoid onServiceDisconnect(){

//服务解绑(service unbinding)

}

}

 Two. Obtain the main data

Obtain the net weight, tare weight, status of the electronic scale by way of interface callback

scaleManager.getData(new ScaleCallback.Stub(){

@Override

public void get(int net,int tare,int status) throws RemoteException {

}

};

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| Parameter descriptions: |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Obtain the net weight, unit: g | Net |  | Net weight, unit:g |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Obtain the tare weight, unit: g | Tare |  |  Tare weight, unit: g |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Obtain the electronic scale status | Status |  | Bit0 weight quantity |  |
|  |  |  |  | Stable mark |  |  |
|  |  |  |  | 0: dynamic；1: stable |  |
|  |  |  |  | Bit1 whether the weight quantity is less than 20E |  |
|  |  |  |  | 0：not to be less than 20E |  |  |  |
|  |  |  |  | 1： less than 20E |  |
|  |  |  |  | Bit2 overload |  |
|  |  |  |  | Overload mark |  |  |  |  |  |
|  |  |  |  | 0:mormal；1:overload |  |
|  |  |  |  | Bit3 sensor  |  |  |
|  |  |  |  | 0: sensor normal boot & zero clearing |  |
|  |  |  |  | 1: sensor failure in boot & zero clearing |  |
|  |  |  |  | Bit4 calibration status |  |  |
|  |  |  |  | 0: normal calibration data |  |
|  |  |  |  | 1:abnormal calibration data |  |
|  |  |  |  | Bit5 reserved |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |



|  |  |  |  |
| --- | --- | --- | --- |
| **Interface descriptions** |  |  |  |
|  |  |  |  |
| **No.** | Descriptions | Function | Return |
|  |  |  |  |
| **1** | Zero clearing | public void zero() |  |
|  |  |  |  |
| **2** | Tare removal/tare clearing | public void tare() |  |
|  |  |  |  |
|  | It’s tare removal when there is weight quantity on the scale, and it’s tare clearing when there is no weight quantity on the scale. |  |  |
|  |  |  |  |
| **3** | Digital tare removal unit: g | public void digitalTare(int i) |  |
|  |  |  |  |
| **4** | Cancel obtaining data | public void cancelGetData() | Cancel obtaining data, and invoke when exiting the App. Use it in pairs with getData |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **5** | Read the acceleration data | public int[] readAcceleData() | [0][1][2] are respectively  |
|  |  |  | X，Y，Z directional data  |
|  |  |  |  |
|  |  |  |  |
| **6** | Obtain the lead sealing status | public int readSealState() | 0:normal；1:the lead sealing is destroyed |
|  |  |  |  |
|  |  |  |  |

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**Interface descriptions**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **7** |  public int getCalStatus() | Calibration switch |
|  |  | Read the status of the calibration button switch |  |
|  |  |  |  |
|  |  |  |  |

Continued 1.0.13 version & above of the electronic scale are required. This version will be integrated in the formal system (the user can check the version of system App SunmiScaleService in Setting-App ). If the service version of the installation of debug version device is relatively old, please manually update the system.

5.History

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **version** | date | comment |  |
|  |  |  |  |
| **1.0** | 2018-03-23 | Initial version |  |
|  |  |  |  |
| **1.1** | 2018-06-14 | Modify the obtained weight quantity parameters |  |
|  |  |  |  |
| **1.2** | 2018-9-25 | Update jar，add |  |
|  |  | cancelGetData() |  |
|  |  |  |  |