XK3012 weight **transmitter controller**

Four general-purpose relay

user's Guide

VER-60.00

Please read this product manual carefully before use

Please keep this product manual for reference

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POLICE REPORT

AC high voltage inside the controller, please professionals commissioning,
inspection testing and maintenance of the controller.



POLICE REPORT

To ensure operator safety and stability control and reliable performance, be sure to keep the controller connectedto good good .

NOTE

In
the forward line instrument table of electrical gas eventhen , please advance to the power source cut off in to theinstrument table on electric before please and so wait 30Miao bell again to instrument table access through thepower source.

NOTE

The instrument table is static electricity -sensitive sense

of set equipment,
in making use and maintenance care inPlease note intended
to adopt to take anti- staticelectricity measures applied .

 NOTE

The controller is a weight transmission control device, can not be used as a trade settlement measuring instruments.

1 Overview

KH312 weight transmitter controller for the field of industrial control transmitter display controller . It sets the weight display, analog signal output, Modbus-RTU communication , large-screen communication, digital input, relay output in one. Speed 24 - bit Σ - Δ A / Dconverter, 16 - bit D / A converter, all the interface after the photoelectric isolation. Fully consider the complexity of industrial field electromagnetic interference, well-designed hardware and software for building materials, chemicals, grain, metallurgy and other industrial field applications.

1.1 Selection and interface configuration

model	Sensor interface	Input switch	Output relay	Serial port 1	Serial port 2	Analog
XK3102-A	1 Ge	4 Ge	4 way	Have	no	Have
XK3102-B	1 Ge	4 Ge	4 way	Have	no	no
XK3102-C	1 Ge	4 Ge	4 way	Have	Have	no
XK3102-D	1 Ge	4 Ge	4 way	no	no	no

1.2 Main features

- Built-in anti- EMC interference circuit, anti-electromagnetic interference ability, data stability, suitable for industrial field applications.
- Three calibration methods: weight calibration, calibration parameter modification, sensitivity input calibration (free weights calibration).
- can choose RS232 or RS485 two ways to support Modbus-RTU communication multi-word continuous read and write functions.
- can set the analog output type: 0 ~ 20mA , 4 ~ 20mA , 0 ~ 5V or 0 ~ 10V .
- relay output mode can be set : sorting, setting, quantitative, reduction, ingredients, sub-seizure, peak and other modes.

☹ ✞ actual feeding weight is out of tolerance, jog feed is automatically started.
☹ Support the host computer to carry on the calibration to the controller.
☹ Cycle batching times can be set to support an unlimited number of cycle batching function.
☹ ♦ number of times the cumulative function, the actual weight of the ingredients on the machine to read the function.
☹ support the host computer communication zero, peeled, ingredients start and stop a series of operations.
☹ ♦ steel corrosion-resistant panel, all-metal shielding shell.
☹ 24BIT Σ - △ type A / D conversion , the maximum number of A / D pulses: 1,000,000 .
☹ A/D rate: 15 times / second, 30 times / second, 60 times / second, 100 times / second, 200 times / second.
☹ Three calibration methods: weight calibration, calibration parameter modification, sensitivity input calibration (free weights calibration)
☹7 Wei 0.56 Yingcun LED digital display , 10 segment Bargraph indication . 7 Ge LED indicators.

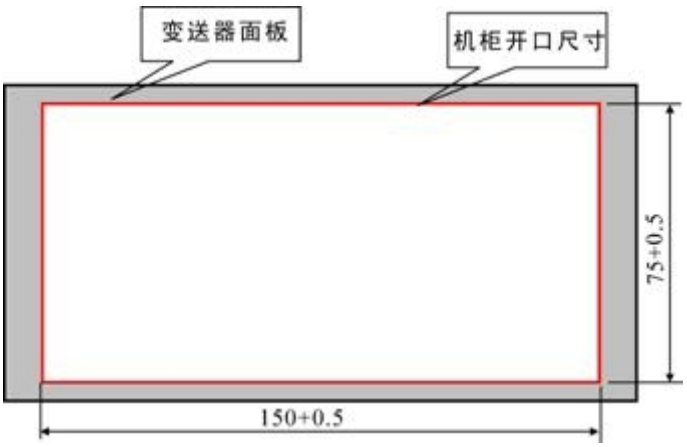
1.3 Technical parameters

● excitation voltage: 5.0VDC , can drive . 8 Zhi 350 τηεΩ analog sensor.
☹ Range signal range: 1.5 ~ 40mV .
☹ Zero signal range: - 40 ~ 38.5mV .
☹ Analog current output: Max 500 Ω.
☹ Analog voltage output: Min 10 K Ω.
☹ relay contact capacity: AC3A/ 250V , DC3A/ 30V .
☹ highest sensitivity : 0.3uV / d .
☹ Non-linearity: better than 0.01% FS .
☹ Power supply voltage range: AC 200 ~ 242V , frequency 49 ~ 51Hz , the maximum power consumption of 8 watts. The controller requires a good ground wire and can not share a power supply with devices that generate power noise, such as motors, relays, or heaters.
☹ Use temperature: -20 ℃ ~50 ° C, Humidity of 10 % to 95 %, non-condensing.
☹ Storage temperature: -30 ℃ ~60 ° C, Humidity of 10 % to 95 %, non-condensing.

2 An installation

2.1 Controller is fixed

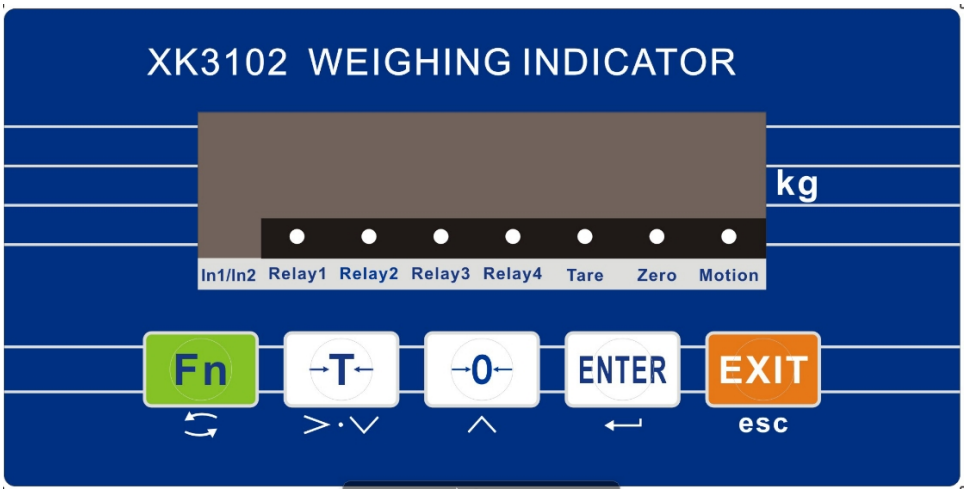
The controller uses the panel to install the way, requests the cabinet front wall thickness which installs does not surpass4 mmIs appropriate, the opening size of the cabinet is as follows: (dimensions unit is millimeter)



Controller Dimensions: Panel length170 mm,width85 mm, Body length150 mm,width75 mm,deep100 mm.

Before installation, remove the ejector levers on both sides of the housing, and then install the weighing terminal in the cabinet. Fix the two rams on both sides of the weighing terminal, and tighten the controller housing to ensure a firm installation.

2.2 Schematic of the front panel



☹ Output ① : relay 1 action indicator, output ② : relay 2 action indicator.

☹ Output ③ : relay 3 action indicator, output ④ : relay 4 action indicator.

☹ zero area: weight is less than the value of zero zone indicator.

☹ Operation: Relay external control output start indicator.

☹ Peak value: Peak hold indicator in peak detection mode, and tare effective indicator in other modes.

2.3 Rear panel wiring instructions

Rear panel connectors Figure (the A type, for example) as follows:



1 , the upper terminal wiring instructions (if there is no such output, the label below the label NULL):

Serial number	The upper part of the label	Botto m of the label	Description	Remarks
1.	220VAC	L	AC220V power line	AC220V AC power input terminal
2.		N	AC220V power supply neutral	
3.		E	AC220V power ground	
1.	Analo g output	V +	Voltage output	The controller can select the voltage or current output, the output type through the parameter selection
2.		COM	Voltage or current output common	
3.		I +	Current output terminal	
4.	Seria l port2	GND	RS232 Communication interface2 referen ce ground	Two for communication interfaces RS232output Communication Interface 2
5.		TXD	RS232 communication interface2 of the sender	
6.		RXD	RS232 communication interface2 of the receiving end	
7.	Seria	485B	RS485-B terminal	**Communication interface**

	1 port			1: Optional RS232output communication interface 1 andRS485 output communication interface, see Note 1
8.		485A	RS485-A terminal	
9.		GND	RS232 communication interface1 / RS485 reference ground	
10.		TXD	RS232 communication interface1 of the sender (connected to the host computer receiver)	
11.		RXD	RS232 communication interface1 of the receiving end (connected to the host computer transmitter)	

Note 1 : The communication interface of the controller has both RS232 and RS485 communication modes, but can not output at the same time. The communication mode is RS232 or RS485 through the internal jumper . The data format of the two communication modes is the same. If no special requirements factory default internal jumper select RS485 communication mode.

2 , the bottom row wiring instructions:

Serial number	The upper part of the label	Bottom of the label	Description	Remarks
1.	Relay output	NULL	Not used	Four sets of relay normally open contact output
2.		COM4	Relay 4 Common Contact	
3.		NO4	Relay 4 Normally open contact	
4.		NULL	Not used	
5.		COM3	Relay 3 Common Contact	
6.		NO3	Relay 3 normally open contact	
7.		COM2	Relay 2 Common Contact	
8.		NO2	Relay 2 normally open contact	
9.		COM1	Relay 1 Common Contact	

10.		NO1	Relay 1 normally open contact	
11.	Switch input	NULL	Not used	External passive switch or button input
12.		COM	Input switch common	
13.		SW1	Input switch 1	
14.		SW2	Input switch 2	
15.		SW3	Input switch 3	
16.		SW4	Input switch 4	
17.	Load cell	EXE +	The sensor is energizing	**The default choice of six-wire sensor controller, four-wire sensor needs to positive and positive feedback, negative and negative feedback short-circuit feedback** **Note 2**
18.		SEN +	Positive feedback of the sensor	
19).		EXE-	Sensor negative excitation	
20.		SEN-	Sensor negative feedback	
twenty one.		SIG-	Sensor negative signal	
twenty two.		SIG +	Sensor positive signal	
twenty three.		SHLD	Sensor shielding line	

Note 2 : ▲! Sensor and controller connection must be reliable, the sensor shielded wire and metal shell must be reliably grounded. The cable does not allow the controller to be plugged in and out to prevent static damage to the controller or sensor.

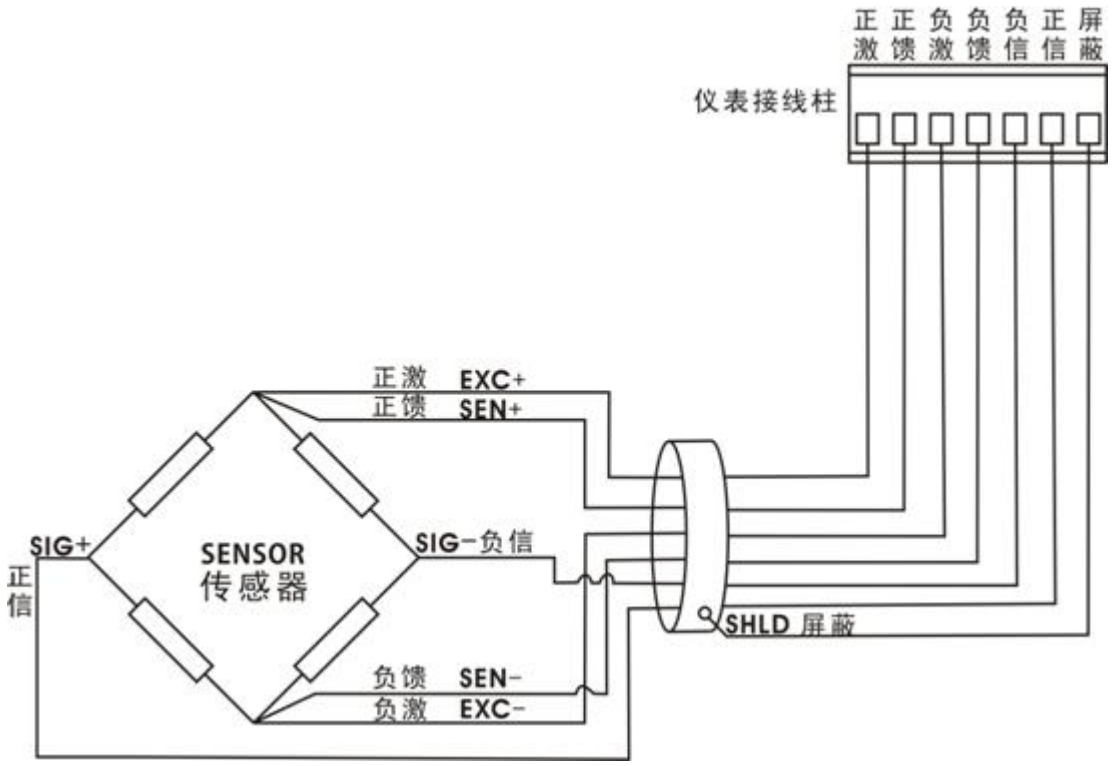
. Sensors and controllers are electrostatic sensitive equipment, in the use of anti-static measures must be taken to strictly prohibit welding operation on the scale or other strong electric operation in the thunderstorm season, must implement a reliable lightning protection measures to prevent the lightning caused by sensors And controller damage, to ensure that the operator's personal safety and control equipment and related equipment, safe operation.

2.4 sensor and controller wiring methods

Correspondence relationship category	Sensor output line and the controller terminal relationship between the corresponding						
Sensor output line	Positive excitation (red line)	Positive feedback	Negative excitation (black line)	Negative feedback	Negative signal (White line)	Positive signal (green Line)	Shielded cable
Controller terminal	Forward	Feed forward	Negative shock	Negative feedback	Negative letter	Is the letter	shield

Four-wire transducer	Forward and feed forward short		Negative and negative feedback shorted		Negative letter	Is the letter	Shielded cable

Sensor and controller wiring diagram is as follows:



3 Operating Instructions

3.1 Key description

button	The name of the key	Function 1	Function 2	Function 3
	【Setting key】/【Recipe key】	Weighing status sets the relay parameters directly	In the setting state, the function parameter of the current setting is not saved and the next function item is entered	At the same time press the key to enter a function setting state.
	【Right Shift】/ 【 Peel 】 /【Reduce】	In the setting state, the digital flashing bit is shifted to the right	Display Peeled and canceled Peeled	FN6 function is set to reduce the stateparameters
	【Drop key】 【Add key】	The parameter or number that changes settings in the setting state increases	Press 【SET】 key and 【DOWN key】 to set the parameter	no
	【 Zero 】 key/【Enter】	The zeroing function is implemented in weighing mode	In the setting state, save the current setting function parameter and enter the next function item	In the setting state, it is determined that the current function is executed and the next function item is entered
	【Start / Stop】/【Exit】	The relay output starts or stops	In the setting state, exit the current function item	Quit the query parameters

3.2 Function Item Description

The function item type consists of one function item and two function items. The second function item is a sub-function item of the first-level function item. From the first-level

function item, press 【Enter】 to enter the second-level function item, , Press 【SET】 or 【ENTER】 key to enter the next level function item. For convenience, a list of functions is provided for reference.

Serial number	First-level function symbol (name)	Serial number	Secondary function item Symbol (name)
1.	FN1 (weight calibration)	**1)**	FN1.1 X (calibration mode selection)
		2)	D XXX (division value setting)
		3)	CXXXXXX (Span setting)
		4)	FN1.2 (zero calibration)
		5)	FN1.3 (Load calibration)
		6)	XXXXXXX (Load weight input)
2.	FN2 (operating parameter setting)	**1)**	FN2.1X (ADC conversion rate setting)
		2)	FN2.2X (filter mode setting)
		3)	FN2.3X (button reset parameter setting)
		4)	FN2.4X (automatic zero tracking range setting)
		5)	FN2.5X (Motion detection parameter setting)
		6)	FN2.6X (continuous filtering parameter setting)
		7)	FN2.7X (boot automatically set to zero parametersetting)
		8)	FN2.8X (discontinuous filter parameter setting)
3.	FN3 (communication parameter setting)	**1)**	FN3.1X (serial port 1 baud rate setting)
		2)	FN3.2X (serial port 1 communication mode setting)
		3)	FN3.3XXX (serial port 1 communication address setting)
		4)	FN3.4X (serial port 2 communication mode setting)
4.	FN4 (analog output setting)	**1)**	FN4.1X (analog output type setting)
		2)	FN4.2X (analog output corresponds to the weight range setting)
		3)	LXXXXXX (analog value corresponding to thebottom value of the output settings)
		4)	HXXXXXX (Analog output top corresponds to the weight value setting)
5.	FN5 (relay outputparameter setting)	**1)**	FN5.1X (relay output mode setting)
		2)	FN5.2X (Standby)
		3)	FN5.3X (start auto zero setting)
		4)	FN5.4X (fast mode when the relay settings)
		5)	FN5.5X (discharge mode setting)
		6)	FN5.6X (Slave Send Immediate Setup)
		7)	FN5.7X (Tare setting)
		8)	FN5.8X (Cumulative count clear setting)

		9)	AXXXXXX (Relay Parameter A Setting)
		10)	BXXXXXX (relay parameter B setting)
		11)	CXXXXXX (relay parameter C setting)
		12)	DXXXXXX (relay parameter D settings)
		13)	EXXXXXX (relay parameter E setting)
		14)	FXXXXXX (relay parameter F setting)
		15)	PXXXXXX (relay parameter P setting)
		16)	HXXXXXX (relay parameter H setting)
		17)	UXXXXXX (relay parameter U setting)
		18)	LXXXXXX (relay parameter L setting)
		19)	C1 X.X (start delay or peak hold timeparameter setting)
		20)	C2 X.X (stable delay or jog intermittent timeparameter setting)
		twenty one)	C3 X.X (Disable compare time setting)
		twenty two)	C4X.X (Discharge delay time setting)
		twenty three)	C5X.X (jog time setting)
		twenty four)	C6X.X (Cycle start delay time setting)
		25)	C7XX (Cycle batching setting)
6.	FN6 (Adjusting the Analog Output Bottom and Top)	**1)**	AL-CAL1 (Analog Output Bottom CoarseAdjustment)
		2)	AL-CAL2 (fine adjustment of analog output bottom)
		3)	AL-CAL3 (Analog Output Bottom MicroAdjustment)
		4)	AH-CAL1 (Analog output top coarse adjustment)
		5)	AH-CAL2 (fine adjustment of the top of analog output)
		6)	AH-CAL3 (Analog output top trim)
7.	FN6-ESC (exit setting state)		
8.	LOADINC (analog restore factory default)		

3.3 Weight Calibration FN1

Prepare a weight or weight for the corresponding weight before calibration. You need to enter the correct password (wt calibration 12111), enter the correct password first 5 within minutes

do not need to enter it again 5 minutes later if the parameter is set to re-enter the password again.

The specific calibration steps are shown in the following table.

step	display	Function name (symbol)	Description
1. 1	[FN1]	Weight Calibration (FN1)	Press [SET] and [DOWN] to enter FN1in weighing mode . Press 【Enter】 key to enter the calibration password input interface.
2.	[P-00000]	Calibration Password Input (PASSWORD)	The correct calibration password is 12111 . Press 【RIGHT】 to select the modified bit; Press【ADD】key to modify the value of flashing digit; Press 【OK】 key to enter the next step if the password is correct. Press 【Exit】 key to return to weighing state; Press【FUNCTION】 to cancel the current operation and proceed to the next step; If the password is wrong, ERR 06 isdisplayed .
3.	【 FN1.1 X 】	Calibration mode selection	Where X is the set calibration mode. X = 0: Load calibration (X = 0is the normal calibration mode, set up steps 4-8 to complete the calibration). X = 1: Calibration parameter modification, after step 5 , go to step 9 directly . X = 2: sensitivity input calibration,after step 5 directly into step 12 . Key operation Refer to step 2 .
3. 3	[D XXXX]	Scale value setting (DXXXX)	Where XXXX is the division value, the division value can be set: 1 , 0.1, 0.01 , 0.001 , 2 , 0.2 , 0.02 , 0.002 , 5 , 0.5 , 0 .05 , 0.005 , 10 , 20 , 50 . Press 【Add】 to select the desired scale value; Press 【OK】 key to save the set graduation value and move on to the next step.
5.	【 CXXXXXX】	Setting the scaleor the total range of the sensor (CXXXXXX)	Where XXXXXX is the scale range (when calibration mode is 0 and 1) or the total sensor range (calibration mode 2) , if the scaleis10000, enter0010000. Set to complete automatically enter the next step. Key operation Refer to step 2 .
6. 5	[FN1.2]	Zero Calibration (FN1.2)	Indicates that the zero point is to be calibrated, the empty scale is required and the weighing platform is kept stable . Press 【 OK 】 key to start zero calibration, the controller displays " - - - - - - - " while the beam

			gradually extinguished, the data during the instability, light beam will return to full-bright state.After all the light beam is extinguished, the calibration zero point is completed, and the next step is automatically performed.
7. 6	[FN1.3]	Weight calibratio nrange (FN1.3)	It is recommended to load the weight or weight more than 20 % of the ▪ ▪ ▪ ▪ ▪ ▪ ▪maximum weight . If the weight or weight is evenly distributed or placed at the center of the weighing platform and stable, press 【OK】 Key to start the range calibration, the controller will display " " and the light beam will be turned off gradually. During this period, the data will be unstable and the light beam will return to full-bright state. When the beam is fully extinguished, the controller automatically advances to the next step.
8. 7	First [0000000] After 【0010000 】	Enter the weight to calibrate the weight value (XXXXXXX)	The controller displays " 0000000 ", in which case the actual weight value of the loaded weight or weight is entered. If the weight value is 10000, enter " 0010000 ", and then press the [OK] key. If the calibration is accurate, the controller immediately displays the input weight. At this point the weight calibration step is complete, normal weighing control can be carried out. Key operation Refer to step 2 , and note that theweighing platform must be kept stable after steps 5 to 7
Step 9 ~ 11 Calibration parameter modification *(please back up the original parameters before restoration for recovery)* For details, see 4.6 Application of Calibration Parameter Modification. . .			
9.	[FN1.2] 【 H001000 】 【 H002000 】	Internal Zero Input (FN1.2)	Indicates that the zero mark internal code is to be entered. H denotes positive, - denotes negative Press 【OK】 key, the controllerdisplays the current zero code value, such as " H001000 ", said the current code is " 1000 ". At this point the user can modify the actual need to zero code value, such as " 2000 ", then enter " H002000 " can be. Key Operation Refer to Step 2, and then press the [Enter] key to proceed to the next step.
10. !.	[FN1.3] 【 H020000 】 【 H030000 】	RANGE INPUT (FN1.3)	Indicates that the range calibration internal code is to be entered. Hdenotes positive, - denotes negative Press 【 OK 】 key, the controllerdisplays the current range code value, such as " H020000 ", said the current code is " 20000 ". At this point the user can modify the zero code value, such as " 30000 ", enter " H030000 " can be. Key Operation Refer to Step 2 , and then press the [Enter]

			key to proceed to the next step.
11.	[FN1.4] 【 H003000 】 [H001500]	Calibration weigh t input (FN1.4)	Indicates that the range calibration weight is to be entered. H denotes positive, - denotes negative Press 【 OK 】 key, the controllerdisplays the current calibration weight value, such as ″ H003000 ″, indicatingthat the current calibration weight is ″3000 ″. At this point the user can modify the weight of the actual need, such as ″1500 ″, then enter ″ H001500 ″ can be.Key operation Refer to step 2 , and then press 【 Enter 】 key to finish the parameter input calibration.
Steps 12-13 are sensitivity calibration For detailed application, see 4.7 Application of Sensitivity Calibration. . .			
12.	[LX.XXXXX] [L2.00000] [L3.00000]	Sensitivity input (LX.XXXXX)	″ LX.XXXXX ″ means the currentsensitivity value, the user can modify the sensitivity value according to the actual needs. If the current sensitivityis ″ 2.0 ″ or L2.00000 , and the current sensitivity is 3.0, the input isL3.0000 .] Can be. After finishing this step, press 【Exit】 key to return to weighing mode to complete the sensitivity calibration .If the zero point has deviation, press 【 Zero 】 key to set zero. Key operation Refer to step 2 . If the zero point code of the sensitivity calibration is to be modified, the process proceeds to step S13 .
13.	[F1.5 X] [F1.5 1] [H001500] 【 H002500 】	Zero-point codemodification enabled (FN1.5)	【 F1.5 X 】 The zero mark modification of sensitivity calibration is enabled = 0 Zero point is not enabled; = 1Enables modification zero; = 2 Zero Restores the factory zero and updates the operating zero. Press 【OK】 Set X = 1 , you can modify thesensitivity of the calibration zero code, such as the original code is ″ 1500″, now want to modify the ″ 2500 ″, then enter ″ 0002500 ″, then press 【OK key】. At this point, the sensitivity calibration operation is completely ended.

3.4 Working Parameters Setting FN2

The user can modify the controller operating parameters as needed. These parameters include: ADC conversion rate, filter mode, button clear, auto zero tracking range, dynamic detection parameters, continuous filtering parameters, auto zero setting range parameters and intermittent filtering parameters, If you do not need to save the modified parameters, press 【SET】 to enter the next step. If the modified parameters need to be saved, you need to press 【ENTER】to save and enter the next parameter automatically, press【EXIT】Returns the weighing

status. See the following table for detailed setting procedures.

step	display	Function name (symbol)	Description
1.	【 FN2 】	Working parametersetting （FN2）	At the same time in weighing mode press[Set button] and [] keys to drop into theFN1, and then press the [set] button to display FN2. Press 【Enter】 to enter the next step.
2.	【 FN2.1 X 】	ADC ConversionRate Setting (FN2.1X)	X can be set from 0 to 5. 0 = 7.5Hz；1 = 15Hz；2 = 30Hz；3 = 60Hz；4 = 100Hz；5 = 200Hz. The factory default is 4. Press 【Add】 key to select the requiredADC conversion rate; Press [OK] to save the changes and proceed to the next step. Press【SET】to save the changes and go to the next step;
3.	[FN2.2 X]	Filter setting (FN2.2X)	X can be set to a value of 0, 1. 0 = continuous filtering mode **(dosing control mode)**； 1 =discontinuous filtering mode.**(Fast weighing mode)** The factory default value is 0. The setting method is the same as Step 2.
4.	[FN2.3 X]	Button ClearParameter Setting (FN2.3X)	X can be set to 0, 1, 2, 3. 0 = disabled; 1 =allow zeroing range of ± 50% the FS； 2 =allow zeroing range of ± 100% the FS； 3 =Enables the zero-setting range to be unlimited The factory default is 3. The setting method is the same as Step 2.
5.	[FN2.4 X]	Auto Zero Tracking Range Setting (FN2.4X)	X can be set to 0, 1, 2, 3. 0 = Disabled 1 =Automatic zero tracking is allowed for 1d/sec 2 =Enables automatic zero tracking of2d/s 3 =Enables auto zero tracking

			for 3d / s The factory default value is 0. The setting method is the same as Step 2.
6.	[FN2.5 X]	Motion detection parameter setting (FN2.5X)	X can be set to 0, 1, 2, 3. 0 = Motion detection is disabled 1 = Dynamic detection sensitivity 1d isallowed 2 = Dynamic detection sensitivity 2d isallowed 3 = Allows dynamic detection sensitivity 3d The factory default is 2. The setting method is the same as Step 2.
7.	[FN2.6 X]	Continuous Filter Setting (FN2.6X)	X can be set from 0 to 9, the number represents the filter strength, the greater the value, the stronger the degree of filtering, the corresponding stability time will be longer. The factory default is 6. The setting method is the same as Step 2.
8.	[FN2.7 X]	Power On Zero Range ParameterSetting (FN2.7X)	X can be set to 0, 1, 2, 3, 4. 0 = disable, start zero is the calibration zero 1 = Auto-zero setting range ± 4% FS 2 = Auto-zero setting range ± 10% FS 3 = Auto-zero setting range ± 20% FS 4 = The starting zero remains unchanged, ie the last set zero The factory default is 3. The setting method is the same as Step 2.
9.	[FN2.8 X]	Intermittent filterparameter setting (FN2.8X)	X can be set to a value of 0 to 3, the number represents the filter strength, the greater the value, the stronger the degree of filtering, the corresponding stability time will be longer. The factory default is 1. The setting method is the

			same as Step 2.

3.5 Communication parameter setting FN3

The communication parameters that can be set include serial port 1 baud rate, communication mode, communication address and serial port 2communication mode. The communication address can be set when the controller is communicating. See the following table for the setting procedure.

step	display	Function name (symbol)	Description
1.	【 FN3 】	Communication parameter setting (FN3)	FN3 for the communication parameter setting function, including sub-function items. In weighing mode simultaneously press the[set] and [key] key fall into the FN1, and then press the [set] button to cycle through display FN3. Press 【Enter】 to enter the next step.
2.	【 FN3.1 X 】	Serial Port 1 Baud Rate Setting (FN3.1X)	X can be set to 0, 1, 2, 3, 4. 0 = 1200 bps ; 1 = 2400 bps ; 2 = 4800 bps ; 3 = 9600 bps ; 4 = 19200 bps ; The factory default is 4. Press【Add】 to select the desired baud rate; Press [OK] to save the changes and proceed to the next step. Press 【SET】 to save the changes and go to the next step;
3.	【 FN3.2 X 】	Serial Port 1CommunicationMode Setting (FN3.2X)	X can be set to a value of 0, 1. 0 = MODBUS-RTU output; 1 = ASCIIcontinuous output; 2 = Yaohua or Keli large screen output; The factory default value is 0. The setting method is the same as Step 2.
4.	[FN3.3XXX]	Serial port 1communication address setting (FN3.3XXX)	XXX indicates the address of the unit whencommunication is multi-machine in command mode. The value can be set from 0 to 255. The factory default is 1. Press 【RIGHT】 to select the modified bit; Press 【ADD】 key to modify the value of flashing digit; The other setting method is the same as Step 2
5.	【 FN3.4 X 】	Serial port 2communication mode setting (FN3.4X)	X can be set to 0, 1, 2. 0 = no output; 1 = Yaohua or Keli large screen output; The factory default value is 0. The setting method is the same as Step 2.

3.6 Analog Output Settings FN4

When the controller has an analog output module, the FN4 function can be used to set the analog output type and select the analog output weight transmission range. Analog output types are 0 ~ 20mA , 4 ~ 20mA , 0 ~ 5V and 0 ~ 10V . The weight range of the analog output can be from zero to maximum weighing, or it can be the selected weight range. If you do not need to save the modified parameters, press 【SET】 to enter the next step. If the modified parameters need to be saved, you need to press【OK】key to save and enter the next parameter automatically, press 【Exit】 Returns the weighing status. See the following table for detailed setting procedures.

step	display	Function name (symbol)	Description
1.	【 FN4 】	Analog Output Settings (FN4)	FN4 contains subfunctions In weighing mode simultaneously press the[set] and [key] key fall into the FN1 , and then press the [set] button to cycle through display FN4 . Press 【Enter】 to enter the next step.
2.	[FN4.1 X]	Analog Output Type Setting (FN4.1X)	X can be set to 0 , 1 , 2 , 3 . Current output: 0 = 0 ~ 20mA ; 1 = 4 ~20mA ; Voltage output: 2 = 0 ~ 5V ; 3 = 0 ~ 10V . The factory default is 1 . Press 【Add】 key to select the desired analog output type; Press [OK] to save the changes and proceed to the next step. Press 【SET】 to save the changes and go to the next step; *(Note that the controller needs to be powered on again after the analog output type is changed)*
3.	[FN4.2 X]	Analog output corresponding weight range setting (FN4.2X)	X can be set to a value of 0 , 1 . 0 means weight transmission range is zero to the maximum weighing, when the zero corresponds to the bottom of the analog output, when the weight is the largest weighing corresponds to the top of the analog output; 1 indicates that the weight transmission range is the selected weight range, The low end of the weight range corresponds to the bottom of the analog output and the high end corresponds to the top of the

			analog output. The factory default is 0. Press 【 ENTER 】 to save the correspondinganalog output weight range. If FN4.2 = 0, the system will enter FN5. If FN4.2 = 1, the process will proceed to the next step. Press 【ENTER】 key to select thecorresponding analog output weight range . Press FN4.2 = 0 to enter FN5 ; if FN4.2 = 1 , go to the next step.
4.	[LXXXXXX]	Analog output bottomcorrespondingweight setting (LXXXXXX)	Set the weight value corresponding to the bottom of the analog output. Press【RIGHT】 to select the modified bit; Press 【ADD】 key to modify the value of flashing digit; Press 【SET】 key to save the changes without going to the next step; Press [OK] to save the changes and proceed to the next step.
5.	【 HXXXXXX 】	Analog output topcorrespondingweight setting (HXXXXXX)	Set the weight value corresponding to the top of the analog output. The setting method is the same as step 4.

3.7 Adjust the bottom of the analog output and top FN6

Before leaving the factory, have carried on the calibration to four kind of analog outputs, so long as must choose the analog output the type to be allowed. If necessary, you can FN6 adjust the currently selected analog output bottom and top value functions, such as the currently selected analog output type 0 ~ 5V , use FN6 function can be adjusted to 0.5 ~ 4.5V . When adjusting, connect the analog output terminal with high accuracy voltage or ammeter. Follow the steps below to set the step, and exit the setting when the requirement is reached. In addition, the controller also has an analog output value of the factory restore function, the specific settings steps in the following table. (Note: Modify the input analog output when the correct password, enter the correct password first 5 do not need to enter it again within minutes, 5 minutes later if you modify the analog output again to re-enter the password.)

step	display	Function name (symbol)	Description
1.	【 FN6 】	Adjust the bottom and top of the analog output (FN6)	In weighing state press key [set] and [target] key to enter FN6. Press 【Enter】 to enter the next step. Press 【SET】 to enter ESC.
2.	[P-00000]	Password input (PASSWORD)	The correct password is 13222 Press 【RIGHT】 to select the modified

			bit; Press 【ADD】 key to modify the value of flashing digit; Press 【OK】 key to enter the next step if the password is correct, and ERR 06 if the password is wrong .
3.	【 AL-CAL1 】	Analog Output Bottom CoarseAdjustment (AL-CAL1)	Analog output to the bottom of a rough adjustment, according to the current analog output type in the corresponding analog output voltage meter or ammeter connected high-precision. Observe the values shown on the table and adjust them as follows: Press 【ADD】 key to increase the bottom value of analog output; Press 【decrease】 key to reduce the bottom value of analog output; Once the adjustment to meet the requirements, press 【OK】 key to save the adjustment value, the controller automatically enter the next step.
4.	【 AL-CAL2 】	Analog Output Bottom FineAdjustment (AL-CAL2)	The bottom of the analog output is fine-tuned. The adjustment method is the same as Step 3.
5.	【 AL-CAL3 】	Analog Output Bottom Micrometer(AL-CAL3)	The bottom of the analog output is slightly adjusted. The adjustment method is the same as Step 3.
6.	[AH-CAL1]	Analog Output Top Coarse Adjustment(AH-CAL1)	The analog output tip is roughly adjusted. The adjustment method is the same as Step 3.
7.	【 AH-CAL2 】	Analog Output Top Fine Adjustment (AH-CAL2)	The top of the analog output is fine-tuned. The adjustment method is the same as Step 3.
8.	【 AH-CAL3 】	Analog Output TopAdjustment (AH-CAL3)	The analog output tip is slightly adjusted. The adjustment method is the same as Step 3.
9.	【 ESC 】	Exit setting (FN6-ESC)	Press 【SET】 key to enter LOADINC ; Press 【OK】 to exit the setting and return to the weighing state.
10.	【 LOADINC 】	Analog return to factory	The four analog output values are

		value (LOADINC)	restored to their factory values. Press 【SET】 to return to FN6. Press 【OK】 key to restore the four analog output values to the factory value, and then display OFF-ON, waiting for the user to shutdown and restart.

3.8 Relay Output and Digital Input Setting FN5

Table 1 : Output Control Mode

Settings (FN5.1)	Relay mode	Relay 1	Relay 2	Relay 3	Relay 4
= 0	The output is disabled	shut down	shut down	shut down	shut down
= 1	Real-time output	Setting 1	Fixed value 2	Fixed value 3	Fixed value 4
= 2	Real-time sorting output	Lower limit	Upper limit	qualified	Not used
= 3	External control output	Setting 1	Fixed value 2	Fixed value 3	Fixed value 4
= 4	External control output	Lower limit	Upper limit	qualified	Not used
= 5	Returns zero self-latching value output	Setting 1	Fixed value 2	Fixed value 3	Fixed value 4
= 6	3 Material Ingredients with a discharge	Material 1	Material 2	Material 3	Discharge
= 7	2 Material speed ingredients	Feed 1 fast	Material 1slow addition	Feed 2 fast	Material 2 slow increase
= 8	1 material with the speed of ingredients with discharge	Fast add	Slow addition	Discharge	Not used
= 9	Fast and slow reduction of ingredients with a lack of material overload control	Fast subtraction	Slow down	Lack of material feeding	overload
= 10	Automatic weight grading	Lower limit of separation	Upper limit of classification	Sub-qualified	Not used
= 11	External control	Lower limit	Upper limit of	Sub-qualified	Not used

	triggers weight sorting	of separation	classification		
= 12	External control instantaneous peak	Lower peak	Peak upper limit	Peak qualified	Not used

Table 2 : Switch input functions

Setting method (FN5.1)	Relay mode	Switch 1	Switch 2	Switch 3	Switch 4
= 0	The output is disabled	no	no	no	Zero
= 1	Real-time output	no	no	no	Zero
= 2	Real-time sorting output	no	no	no	Zero
= 3	External control output	Start /Stop	no	no	Zero
= 4	External control output	Start /Stop	no	no	Zero
= 5	Returns zero self-latching value output	no	no	no	Zero
= 6	3 Material Ingredients with a discharge	Start /Stop	Pause /Resume	Discharge	no
= 7	2 Material speed ingredients	Start /Stop	Pause /Resume	no	no
= 8	1 material with the speed of ingredients with discharge	Start /Stop	Pause /Resume	Discharge	no
= 9	Speed reduction of ingredients	Start /Stop	Pause /Resume	no	no
= 10	Automatic weight grading	Start /Stop	no	no	no
= 11	External control triggers weight sorting	Start /Stop	Trigger switch		
= 12	External control instantaneous peak	Start /Stop	no	no	no

Table 3 : Relay Parameter Setting Procedure

NOTE: Press [Formula] key shortcut to go to the next step in Table 9 , to query and set the step 9 to step 25a total of 16 relay parameters.

step	display	Function name (symbol)	Description

1.	【 FN5 】	Relay Output Setting (FN5)	In weighing mode simultaneously press the[set] and [key] key fall into the FN1 , and then press the [set] button to cycle through display FN5 . Press 【Enter】 to enter the next step.
2.	【 FN5.1 XX 】	Relay output mode setting (FN5.1XX)	XX can be set from 0 to 12 , see Table 1above. If the user does not use the relay output function, the proposed relay output mode is set to 0 . The factory default is 1 . Press 【Add】 key to select the desired relay output mode; Press【RIGHT】 to select the modified bit; Press [OK] to save the changes and proceed to the next step. Press 【SET】 to save the changes and go to the next step;
3.	[FN5.2 X]	Alternate parametersetting (FN5.2X)	X can be set to a value of 0 to 2 . Alternate parameters The factory setting is 0 . The setting method is the same as Step 2 .
4.	[FN5.3 X]	Start Auto Zero Setting (FN5.3X)	X can be set to a value from 0 to 1 . = 0 : Zero-setting is not performed when the controller starts the batch. = 1 : Zeros are set when the controller starts batching. The factory setting is 1 . The setting method is the same as Step 2 .
5.	[FN5.4 X]	Fast mode setting (FN5.4X)	X can be set to a value from 0 to 1 . = 0 : fast feed, fast and slow plus relay output at the same time. = 1 : fast feeding, the fast increase output, slow plus relay is not output. The factory setting is 0 . The setting method is the same as Step 2 .
6.	【 FN5.5 X 】	Discharge mode setting (FN5.5X)	X can be set to a value from 0 to 1 . = 0 : Dispense the material automatically after finishing. = 1 : After the completion of the ingredients, to manually press 【release switch】, the only start feeding. The factory setting is 0 . The setting method is the same as Step 2 .
7.	【 FN5.6 X 】	Slave	X can be set to a value from 0 to 1 .

		SendImmediate Settings （FN5.6X）	= 0：MODBUS-RTU communication slave receives instruction, delay time 3T to respond. = 1：The MODBUS-RTU communication slave responds immediately after receiving the instruction. The factory setting is 1. The setting method is the same as Step 2.
8.	【FN5.7 X】	Peel Enable Setting （FN5.7X）	X can be set to a value from 0 to 1. = 0：The controller does not allow the tare operation. = 1：The controller allows the tare operation. The factory setting is 0. The setting method is the same as Step 2.
9.	【AXXXXXX】	Relay parameter Asettings （AXXXXXX）	Relay parameters set the A. Press【RIGHT】to select the modified bit; Press【ADD】key to modify the value of flashing digit; Press【SET】key to save the changes without going to the next step; Press [OK] to save the changes and proceed to the next step.
10.	[BXXXXXX]	Relay parameter bsettings （BXXXXXX）	Set the relay parameters b. The setting method is the same as step 9.
11.	【CXXXXXX】	Relay parameter Csettings （CXXXXXX）	Setting the relay parameters C. The setting method is the same as step 9.
12.	[DXXXXXX]	The relay parameter disset （DXXXXXX）	Set the relay parameter d. The setting method is the same as step 9.
13.	[EXXXXXX]	Relay parameter Esettings （EXXXXXX）	Setting the relay parameters E. The setting method is the same as step 9.
14.	【FXXXXXX】	Relay parameter Fsetting （FXXXXXX）	Setting the relay parameters F.. The setting method is the same as step 9.
15.	[PXXXXXX]	Relay parameter Psettings	Set the relay tolerance value 1. The setting method is the same as step 9.

		（PXXXXXX）	
16.	【HXXXXXX】	Relay parameter H is set （HXXXXXX）	Set the relay tolerance value 2. The setting method is the same as step 9.
17.	[UXXXXXX]	The relay parameter U isset （UXXXXXX）	Set the relay tolerance value 3. The setting method is the same as step 9.
18.	[LXXXXXX]	Relay parameter L is set （LXXXXXX）	Set the zero zone value. The setting method is the same as step 9.
19).	[C1 X.X]	Delay parameter 1setting （C1 XX）	Set the start delay or peak hold time, the value of the range of 0.0 to 9.9 seconds; The setting method is the same as step 9.
20.	[C2 X.X]	Delay parameter 2settings （C2 XX）	Set the stabilization time or jog interval, which is in the range of 0.0 to 9.9 seconds. The setting method is the same as step 9.
twenty one.	[C3 X.X]	Delay parameter 3settings （C3 XX）	Set the disable comparison time, which is in the range of 0.0 to 9.9 seconds. The setting method is the same as step 9.
twenty two.	[C4 X.X]	Delay parameter 4settings （C4 XX）	Set the discharge delay time, the value of the range of 0.0 to 9.9 seconds; The setting method is the same as step 9.
twenty three.	[C5 X.X]	Delay parameter 5settings （C5 XX）	Set the jog feed time, the value of the range of 0.0 to 9.9 seconds; The setting method is the same as step 9.
twenty four.	[C6 X.X]	Delay parameter 6settings （C6 XX）	Set the cycle batch delay, which is in the range of 0.0 to 9.9 seconds; The setting method is the same as step 9.
25.	【C7 XX】	Number of loops set （C7 XX）	Set the number of batching cycles, the value range is 00 ~ 99, if set to 99infinite loop; The setting method is the same as step 9.

3.9 Cumulative batching count query and delete

The specific steps are shown in the following table.

step	display	Function name (symbol)	Description
1.	[P-00000]	Password input （PASSWORD）	Press 【 OK 】 and 【 Exit 】 simultaneously to enter the password input interface. **The correct password is 12111** Press 【 RIGHT 】 to select the modified bit; Press 【ADD】 key to modify the value of flashing digit; Press 【OK】 key to enter the next step if the password is correct; Press 【Exit】 to return to the weighing state. If the password is wrong, ERR 06 isdisplayed .
2. 2 ,	【 CXXXXXX 】	DisplayCumulative Count（CXXXXXX）	Where XXXXXX is the cumulative number of times, such as the cumulative number of 10 shows C000010 . Press 【Enter】 to enter the next step. **Key operation Refer to step 1**
3. 5 ,	【 FN5.8 X 】	Cumulative number of times deletion is enabled （FN5.8 X）	Where X is the cumulative number of times to delete the enable bit = 0 do not delete the cumulative number of times; = 1 Delete the cumulative number of times; To delete the cumulative count, enter ″1" and press the {ENTER} key.

3.10 controller initialization parameters

step	display	Function name (symbol)	Description
1	[P-00000]	Password input （PASSWORD）	**When the controller is powered on,** press [OK] and [Exit] to enter the password input interface. **Note: The initialization parameterpassword is 22222 and theinitialization parameter password is 33333 .**

			Press 【RIGHT】 to select the modified bit; Press 【ADD】 key to modify the value of flashing digit; Press 【Exit】 key to return to weighing state, If the password is wrong, ERR 06 isdisplayed . Enter the correct password, press【OK】 button to complete the initialization operation. Note: Be sure to perform the parameter initialization when the controller is powered on.

4 Appendix

4.1 Command mode

Baud rate: 1200/2400/4800/9600/19200 (optional) 8 -bit data bits, 1 start bit, 1 stop bit, no parity.

Note: The actual weight value in the command mode to send the value is a signed integer number, that does not contain the decimal point, for example, to send gross weight, weight is1.386 kg(Tons, grams, kg), the value is the controller display value, the actual transmission of the weight value of 1386 hexadecimal number, that is 0X56A, With a 16-bit signed , high byte is 0X05 , low byte is 0X6A; Signed with a long integer that high byte to low byte are 0X00 , 0X00 , 0X05 , 0X 6A.

4.2 MODBUS-compatible communication protocol description

When the parameter [FN3.2 = 0] is selected, the Modbus - compatible communication mode is selected . The bus can only select RS232 orRS485 mode, and it can be selected by internal jumpers. MODBUS as the main form of network communication protocol, the terminal in the MODBUSnetwork as a slave from the station system call, the data format for the RTU way to support 03 , 06 and 16 functions. Hold register 40001 , in which the data address is register 0000 . The function code area is the operation specified for holding the register type, so "4XXXX" is the default address type. For example, the holding register 40001 addresses the register address 0000hex (+ 0) ; the holding register 40011addresses the register address 000Ahex (decimal 10) . Use the 03 function to read up to 30 internal registers at a time. 16 Function Up to20 registers can be written at most each time . Weighing data in the modbus mapping address:

Content address	Description	Remarks
40001	The controller displays the weight (signed16 -bit, short integer) -32768 to 32767	Read only (function code 03)
40002	Decimal point value (0 , 1 , 2 , 3)	Read only (function code 03)
40003-40004	Controller display weight (signed 32 -bit, long integer)	Read only (function code 03)
40005-40006	Tare weight (signed long)	Read only (function code 03)
40007	State output word, the specific definition is as follows:	Note: The actual weight of the ingredients to save the flag from 0 to 1 , the host computer can read the actual weight to save.
	Bit 0: Shows the weight of the peeled flag	
	Bit 1: Displays the weight stability flag	
	Bit 2: Displays the weight zero zone flag	
	Bit 3: Discharge process flag	
	Bit 4: Relay 1 output flag	
	Bit 5: Relay 2 output flag	
	Bit 6: Relay 3 output flag	
	Bit 7: Relay 4 output flag	
	Bit 8: Ingredient Actual Weight Save Flag	
	Bit 9 to Bit 15: Invalid	
40008-40009	The relay parameter A value, the written data is written to the internal EEPROM at the same time	Read, write (function code03,16)
40010-40011	Relay parameter B value, the written data is written to the internal EEPROM at the same time	Read, write (function code03,16)
40012-40013	Relay parameter C value, the written data is written to the internal EEPROM at the same time	Read, write (function code03,16)
40014-40015	Relay parameter D value, the written data is written to the internal EEPROM at the same time	Read, write (function code03,16)
40016-40017	Relay parameter E value, the written data is written to the internal EEPROM at the same time	Read, write (function code03,16)

40018-40019		The relay parameter F is written to the internal EEPROM at the same time	Read, write (function code03,16)
40020		The tolerance P value is written to the internal EEPROM at the same time	Read, write (function code03,16)
40021		The tolerance H value is written to the internal EEPROM at the same time	Read, write (function code03,16)
40022		A tolerance U value is written to the internal EEPROM at the same time	Read, write (function code03,16)
40023		The zero value of the weight L , the written data is written to the internalEEPROM at the same time	Read, write (function code03,16)
40024		Cumulative number of times	Read only (function code 03, 06, 16)
40025-40026		Actual weight	Read only (function code 03,16)
40027	Bit 0	Clear (1 active)	Write only (function code 06, 16)
	Bit 1	Peeled (1 effective)	Write only (function code 06, 16)
	Bit 2	Start / Stop control bit (1 active)	Write only (function code 06, 16)
40028		The calibration handshake signal (signed 16 -bit) , write 0x88 valid	Write (function code 06)
40029		Zero calibration (signed 16 -bit) , write0x00 is valid	Write (function code 06)
40030		Span calibration (signed 16 -bit) , write the actual calibration weight	Write (function code 06)

4.3 serial port MODBUS communication agreement example

4.3.1 03 Function Example

The following controller addresses are set in FN3.3 .

1, the upper machine readable controller display weight (16-bit signed, that is, to save the register 40001)

information	The controller address	function code	The starting address of the register to be read (16 bits)		Number of Reads (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	03	00	00	00	01	84	0A

Controller responds: (assuming that the display weight = 1000 (16 hexadecimal: 0x03E8))

information	The controller address	function code	The controller returns the number of bytes	Returns the data of the 40001 register (16 bits)		CRC check code (16bits)	
				High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	03	02	03	E8	B8	FA

2, the host computer read controller display weight (signed long integer, that is, to maintain the register 40003-40004)

information	The controller address	function code	The starting address of the register to be read (16 bits)		Number of Reads (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	03	00	02	00	02	65	CB

Controller responds: (assuming that the display weight = 80,000 (16 hexadecimal: 0x00013880))

information	The controller address	function code	The controller returns the number of bytes	Returns the data of the 40003register (16 bits)		Returns the data of the 40004register (16bits)		CRC check code (16 bits)	
				High byte	Low byte	High byte	Low byte	High byt	Low byte

								e	
The HEX (16 decimal)	01	03	04	00	01	38	80	B9	93

4.3.2 16 Function Example

1, the host computer to write relay **parameters A** value (ie, write holding **registers 40008 ~ 40009**, write the number of signed long integer, for example, set the **C** value = **70000 (0X00011170)**)

information	The controller address	function code	The starting address of the register to be written (16bits)		Number of registers to write (16bits)		The number of bytes written	Writing data to the 40008register (16bits)		Writes the data of the 40009register (16bits)		CRC check code (16 bits)	
			High byte	Low byte	High byte	Low byte		High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	10	00	07	00	02	04	00	01	11	70	EE	3D

Controller response:

information	The controller address	function code	The starting address of the register to be written (16 bits)		Number of registers to write (16 bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	10	00	07	00	02	F0	09

2, the host computer with **16** functions, from address **40008** units consecutively write **13** words, write the relay parameters **the A = 1000**, **B = 2000**, **C = 3000**, **D = 4000**, **E = 60**, **F. = 50**, **P = 20**, host sends **16** hexadecimal code is as follows: **01 10 00 07 00 0d1a 00 00 03**

e8 00 00 07 d0 00 00 0b b8 00 00 0f A0 00 00 00 3c 00 00 00 32 00 14 68 2d

4.3.3 06 Function Example

1, the host computer to write a clear command (that is, write holding register 40027)

information	The controller address	function code	Address of the register to be written (16 bits)		Write the data of the40027 register (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	06	00	1A	00	01	69	CD

Controller response:

information	The controller address	function code	Address of the register to be written (16 bits)		Write the data of the40027 register (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	06	00	1A	00	01	69	CD

2, the host computer to start the batching command (that is, write holding register 40027)

information	The controller address	function code	Address of the register to be written (16 bits)		Write the data of the40027 register (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte
The HEX (16 decimal)	01	06	00	1A	00	04	A9	CE

Controller response:

information	The controller address	function code	Address of the register to be written (16 bits)		Write the data of the40027 register (16bits)		CRC check code (16bits)	
			High byte	Low byte	High byte	Low byte	High byte	Low byte

The HEX (16 decimal)	01	06	00	1A	00	04	A9	CE

3, the host computer can use the **06** function of the controller for weight calibration, the need to use **06** features to send **four**instructions, the first zero calibration, and then range calibration, calibration steps are as follows:

A, send **calibration handshake instruction** (with **06** function in **40028** unit write **0x88**):

01 06 00 1b 00 88 f9 ab

B, the sensor zero-point **calibration** sent under no-load state command (with **0000** unit **06** function write **0x00**):

01 06 00 1c 00 00 48 0c

C, and then send the **calibration handshake** command (with **06** function in **40028** unit write **0x88**):

01 06 00 1b 00 88 f9 ab

D, under load sensor sends status scale calibration command (calibration weight of **4500** , with **06** functions **40030** writes the**0x1194**):

01 06 00 1d 11 94 14 33

4.4 Continuous transmission mode

Baud rate: 1200/2400/4800/9600/19200 (optional)

8 -bit data bits, 1 start bit, 1 stop bit, no parity.

The data also appears on the RS232 and RS485 buses. The data is consistent with the weight content displayed by the controller. Each data consists of eight frames. The first frame is the data start character frame "=" followed by seven data frames. The high-order invalid zeros are padded with "" (space) Value is negative, the highest bit of the data frame is sent "-".

Start character	symbol	weight							
=	Space or-	High					Low	0D	0A

For example: the controller displays: " 12345 ", the serial port to send data "= 12345 ".

Start character	symbol	weight							
=			1	2	3	4	5	0D	0A

The controller displays: " 1234.5 ", serial port sending data "= 1234.5 ".

Start character	symbol	weight							
=		1	2	3	4	.	5	0D	0A

The controller displays: "-1234.5 ", The serial port sends data "= -1234.5 ".

Start character	symbol	weight							
=	-	1	2	3	4	.	5	0D	0A

4.5 Description of calibration parameters modification

1, the calibration parameters directly affect the calibration input parameters calibration parameters, it is recommended to amend the original backup parameters before the calibration.

2, the calibration parameters modify the input to adjust the working zero, turn on zero to set **FN2.7 = 0** (turn off the boot to zero).

3, zero-scale work to increase the zero point code to reduce the value of zero to reduce the work of the scale to zero within the code value should be increased.

4, by modifying the zero code value can be adjusted to zero the weight of the scale work, adjust the formula is as follows:

Zero point code modification amount = (range code / calibration weight) * (zero weight adjustment)

Note: "(RANGE / CALIBRATION WEIGHT)" is the reciprocal of the scaling factor

5, the calibration coefficient of the formula: calibration coefficient = calibration weight / range within the code

Therefore, by adjusting the range code and calibration weight can be modified calibration coefficient. When the calibration coefficient is large, the display weight becomes larger. Calibration coefficient is small, showing a smaller weight.

4.6 Application examples of calibration parameters modification

Example 1 : The method of adjusting the working zero point by modifying the zero code value.

For example: a tank with materials, according to the volume estimate80000 kg, Can be actually displayed81000 kg, If you continue to add1000 kgMaterial, display will also increase1000 kg, Then the weight is not allowed to change caused by zero, you can modify the zero code correction, the zero down1000 kg. For example, the initial zero code is 3045,

the calibration weight is 20000 , the range code is100000 , the calibration coefficient = 20000/100000 = 0.2,1000 kgThe zero point code modification amount = 1000 / 0.2 = 5000 . **According**to the **scale of work to reduce the zero point zero code value to increase the principle, the code increased 5000 , that is, the code into 3045 +5000 = 8045** on it.

Example 2 : The method of fine-tuning the weight with the coefficient correction method.

Example: Assume the weight of the weighing platform1000 kg, The controller displays998 kg, The **calibration coefficient** needs to be increased by 100 0 ÷ 998 times to approximately 1.002 times . The original calibration weight is 2000 and the range code is 10000 . If you keep the range code unchanged, the calibration weight is changed to 2000 * 1.002 = 2004 can be.

Example 3 : Manual calibration of weight calibration parameters.

Example: After the user has completed the calibration of the scale with the method of weight calibration, in order to prevent the loss of the calibration parameters in the future, you can record the parameters of the calibration in the calibration parameter modification input option after the calibration. If the calibration Parameter is lost, you can enter the calibration parameters in the input option to record the parameters before the calibration parameters can be restored.

4.7 Sensitivity Calibration Application Examples

Example 1 : Weight-free calibration

For example: a scale with 4 sensitivity of 3.0 , the range is100 kgOf the sensor, the division value d = 0.01 , the **sensitivity calibrationinput parameters : total sensor range = 100 * 4 = 400 , input range = C0400.00 ; input sensitivity = L3.00000**

Example 2 : Check whether the sensor is faulty

For example , if the sensor **excitation** voltage is DC5V , if the sensor's total range setting = sensitivity * 5000 and scale value d = 1 , the **sensitivity** value is **displayed by the controller** , which is the **microvoltage** value of the sensor. The stability of the value can directly detect the sensor is good or bad.

4.8 Relay Output Mode Description

According to 3.8 sections input and output control mode, here is the specific application of each control mode, for example, in order to further understand the application (**the following example in order to relay normally open contact to illustrate the problem, the output normally open contact closure action, relay Off means normally open contact open**)

4.8.1Output mode 0 (output disabled) Description

The 4-way relay is turned off in any state.

4.8.2Example of output mode 1 (real-time constant value output)

Assume relay parameters A = 500 (setting 1), B = 2000 (setting 2), C = 3000 (setting 3) and D = 4000 (setting 4).

Display weight >= 500, relay 1 output, otherwise off.

Display weight >= 2000, relay 2 output, otherwise off.

Display weight >= 3000, relay 3 output, otherwise close.

Display weight >= 4000, relay 4 output, otherwise off.

4.8.3Example of output mode 2 (real-time sort output)

Assume relay parameters A = 500 (lower limit), B = 2000 (upper limit). Relay 1 : lower limit relay, relay 2 : upper limit relay, relay 3 : qualified relay.

Display weight <500, the lower limit relay output, otherwise close.

Display weight > 2000, the upper limit relay output, otherwise closed.

500 <= display weight <= 2000, qualified relay output, otherwise closed.

4.8.4Output mode 3 (external control output) Example

When the start / stop switch (switch 1) is activated, the relay function is the same as the output mode 1.

When the start / stop switch (switch 1) is stopped, the 4 relay outputs are always closed.

4.8.5Output mode 4 (external control output) Example

When the start / stop switch (switch 1) is activated, the relay function is the same as the output mode 2.

When the start / stop switch (switch 1) is stopped, the 4 relay outputs are always closed.

4.8.6Output mode 5 (with zero control output) Example

Note : Press 【SET】 to set relay parameters directly.

Assume relay parameters A = 500 (setting 1), B = 2000 (setting 2), C = 3000 (setting 3) and D = 4000 (setting 4).

E = 20 (zero weight).

Display weight >= 500, relay 1 output valid.

Display weight >= 2000, Relay 2 output is active.

Display weight >= 3000, Relay 3 output is valid.

Display weight >= 4000, relay 4 output valid.

Display weight <20, relay 1, relay 2, relay 3, relay 4 output is off.

4.8.7Output 6 (external control 3 material with material discharge control) for example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes	Variable settings	Notes
FN5.1 = 6	Mode 6 , 3 Material Dispense with Discharge		
FN5.3 = 1	Before feeding, = 1 set to zero, = 0 peeled, = 2 not set zero not peeled		
FN5.5 = 1	FN5.5 = 1 Discharge mode is manual, such as FN5.5 = 0 Discharge mode isautomatic .		
C1 = 1.0	The start-up delay time is1.0 seconds	C2 = 2.0	The stabilization delay time is 2.0 seconds
C3 = 1.5	The disallowed comparison time is 1.5 seconds	C4 = 2.5	Discharge delay time is2.5 seconds
C5 = 2.5	Jog feed time is 2.5 seconds	C6 = 2.0	The cycle batching delay is 2 seconds
C7 = 3	Cycle the number of ingredients 3 , start time, automatic cycle batching 3 times. Such as C7 = 99 , the infinite cycle of ingredients		
Relay 1 is the material 1 , the relay 2 is the material 2 , the relay 3 is the material 3 , the relay 4 is the discharge			
Indicator outputs 1 , 2 , 3 , 4 correspond to relays 1 , 2 , 3 , 4 respectively			
Switch 1 is the start / stop switch, switch 2 is the pause / continue switch, switch 3 is the discharge switch, the start of the ingredients 【run】 indicator light			
A = 1000	Material 1 ingredient target value is 1000 ;		
B = 10	Material 1 ingredients ahead of 10 ; material 1 feeding to (1000-10) = 990 , material 1 relay is turned off.		
C = 2000	Material 2 ingredient target value is 2000 ;		
D = 20	Material 2 ingredients advance 20 ; material 2 feeding to (2000-20) = 1980 , material 2 relay is closed.		
E = 3000	Feed 3 target value of 3000 ;		
F = 30	Material 3 ingredients in advance of 30 ; material 3 feeding to (3000-30) = 2970 , the material 3 relay is turned off.		
P = 0	Feed 1 ingredients with tolerance of 0 ; therefore the material 1 after the end of the addition jog without feeding.		
H = 10	Feed 2 material to allow the error of 10 ; material 2 after the end of feeding, the actual feed weight of material 2 is less than (2000-10)= 1990 when the jog feed. Jog feed time is C5 , jog feed interval isC2 .		
U = 20	Material 3 ingredients to allow error of 20 ; material 3 after the end of feeding, the actual charge of material 3 is less than (3000-20) = 2980when the jog feed. Jog feed time is C5 , jog feed interval is C2 .		

L = 50	Zero weight of 50 , when the discharge weight is less than 50 , the controller weight has returned to zero area, discharge end.
Control process is as follows: Start / stop switch Jog once, according to C7 set the number of automatic cycle batching 3 times. After 1.0 seconds after the start delay, the controller set to zero at the same time into the feed 1 ingredients, feed 1 was added to 990 , the material 1 relay is closed after 2.0 seconds after the stabilization delay, starting material 2 feed, feed 2 was added to 1980 when feed 2relay closed after 2.0 seconds after the stabilization delay starting material 3feed, feed 3 was added 2970 material when 3 relay can be closed through 2.0 after the end stabilized seconds delay feed, then wait for the discharge, the controller detects the discharge When the weight is less than 50 , the controller weight has been back to zero, and then delayed the end of 2.5 seconds after the end of a batch of ingredients to complete, and then delay the cycle after 2seconds into the next Time batching, 3 times to complete the ingredients automatically exit the ingredients cycle. (Corresponding to the indicator light when the relay output is valid)	

4.8.80utput mode 7 (external control 2 things fast slow batching control) for example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes	Variable settings	Notes
FN5.1 = 7	Mode 7 , 2 material fast slow ingredients		
FN5.3 = 1	Before feeding, = 1 set to zero, = 0 peeled, = 2 not set zero not peeled		
FN5.4 = 1	FN5.4 = 0 Fast feed when the speed relay output at the same time, such as FN5.4 = 1 only fast plus relay output.		
C1 = 1.0	The start-up delay time is1.0 seconds	C2 = 2.0	The stabilization delay time is 2.0 seconds
C3 = 1.5	The disallowed comparison time is 1.5 seconds	C4 = 2.5	Discharge delay time is2.5 seconds
C5 = 2.5	Jog feed time is 2.5 seconds	C6 = 2	The cycle batching delay is 2 seconds
C7 = 3	Cycle the number of ingredients 3 , start time, automatic cycle batching 3 times. Such as C7 = 99 , the infinite cycle of ingredients		
Relay 1 is the rapid increase of material 1 , relay 2 is the slow increaseof material 1 , relay 3 is the rapid increase of material 2 , relay 4 is the material 2 slow plus			
Indicator outputs 1 , 2 , 3 , 4 correspond to relays 1 , 2 , 3 , 4 respectively			
Switch 1 is the start / stop switch, switch 2 is the pause / continue switch, when the ingredient starts 【run】 indicator light			
A = 1000	Material 1 ingredient target value is 1000 ;		
B = 200	Feed 1 ingredients to feed in advance the amount of 200 ; material 1 tofeed (1000-200) = 800 , the material 1 fast closing.		

C = 20	Feed 1 ingredients slow forward the amount of advance 20 ; material 1feeding to (1000-20) = 980 , the material 1 slow plus closed.
D = 2000	Material 2 ingredient target value is 2000 ;
E = 200	Feed 2 ingredients in advance to increase the amount of 200 ; material2 to feed (2000-200) = 1800 , the material 2 fast plus closed.
F = 20	Feed 2 ingredients slow forward the amount of advance 20 ; material 2feeding to (2000-20) = 1980 , the material 2 slow plus closed.
P = 0	Feed 1 ingredients with tolerance of 0 ; therefore the material 1 after the end of the addition jog without feeding.
H = 10	Feed 2 material to allow the error of 10 ; material 2 after the end of feeding, the actual feed weight of material 2 is less than (2000-10)= 1990 when the jog feed. Jog feed time is C5 , jog feed interval isC2 .
L = 50	Zero weight of 50 , when the weight is less than 50 , the controller weight has returned to zero area, the next batching.
Control process is as follows: Start / stop switch Jog once, according to C7 set the number of automatic cycle batching 3 times. After 1.0 seconds after the start delay, the controller set to zero at the same time into the feed 1 rapid feed, feed 1 was added to 800 quick feed off, feed 1 into the slow addition of material 1fed 980 , the material 1 slowly add close, After 2.0 seconds of stabilization delay, start material 2 fast feeding, material 2 to 1800 when the material 2 fast plus closed, material 2 into the slow feed, material 2 added to 1980 , the material 2slow plus closed, after 2.0 seconds stability After the delay, determine whether the actual feed weight of material 2 is less than 1990 , such as less than 1990 , material 2 for jog feeding, jogging feeding time is C5 = 2.5 seconds, jogging feed time is C2 = 2.0 seconds, , The delay time of 2 seconds to enter the next cycle of ingredients, 3 times to complete the ingredients automatically exit the ingredients cycle.	

4.8.90utput mode 8 (external control 1 was slow ingredients with fast discharge control) Example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes	Variable settings	Notes
FN5.1 = 8	Mode 8 , 1 material speed with ingredients with discharge		
FN5.3 = 1	Before feeding, = 1 set to zero, = 0 peeled, = 2 not set zero not peeled		
FN5.4 = 1	FN5.4 = 0 Fast feed when the speed relay output at the same time, such as FN5.4 = 1 only fast plus relay output.		
C1 = 1.0	The start-up delay time is1.0 seconds	C2 = 2.0	The stabilization delay time is 2.0 seconds

C3 = 1.5	The disallowed comparison time is 1.5 seconds	C4 = 2.5	Discharge delay time is2.5 seconds
C5 = 2.5	Jog feed time is 2.5 seconds	C6 = 2	The cycle batching delay is 2 seconds
C7 = 3	Cycle the number of ingredients 3 , start time, automatic cycle batching 3 times. Such as C7 = 99 , the infinite cycle of ingredients		
Relay 1 is fast, relay 2 is slow, relay 3 discharge			
Indicator outputs 1 , 2 , 3 , 4 correspond to relays 1 , 2 , 3 , 4 respectively			
Switch 1 is the start / stop switch, switch 2 is the pause / continue switch, switch 3 is the discharge switch, the start of the ingredients 【run】 indicator light			
A = 1000	Ingredient target value is 1000 ;		
B = 200	Fast feed ingredients in advance 200 ; feeding to (1000-200) = 800 , the fast closing.		
C = 20	Ingredients before slow feed lead 20 ; material 1 fed (1000-20) = 980, the slow feed off.		
P = 10	Ingredients to allow error of 10 ; so the actual weight of less than990 feeding, the start point of feeding.		
L = 50	Zero weight of 50 , when the weight is less than 50 , the controller weight has returned to zero area, the next batching.		
Control process is as follows: Start / stop switch Jog once, according to C7 set the number of automatic cycle batching 3 times. After 1.0 second start delay, the controller will be set to zero at the same time into the fast feed, added to the800 fast-closing, into the slow feeding, feeding to 980 , slow plus closed after2.0 seconds after the stability delay to determine the actual If the feeding weight is less than 990 , such as less than 990 , the feeding is carried out by jogging, the feeding time is C5 = 2.5 seconds, the intermittent feeding time is C2 = 2.0seconds. After the feeding, the controller detects When the weight is less than50 , the controller weight has been back to zero, and then delay the end of 2.5seconds after the end of material, the first batch of ingredients to complete, delay 2 seconds cycle into the next Time batching, 3 times to complete the ingredients automatically exit the ingredients cycle.			

4.8.100utput mode 9 (fast and slow reduction of material with a lack of material overload control) for example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes		
FN5.1 = 9	Mode 9 , speed reduction ingredients		
FN5.4 = 0	FN5.4 = 0 Fast Reduce the speed when the relay output at the same time, such as FN5.4 = 1 only by reducing the relay output.		
C1 = 1.0	The start-up delay time	C2 = 2.0	The stabilization delay time

	is1.0 seconds		is 2.0 seconds
C3 = 1.5	The disallowed comparison time is 1.5 seconds	C5 = 2.5	Jog feed time is 2.5seconds
C6 = 2.0	The cycle batching delay is 2.0 seconds		
C7 = 3	Cycle the number of ingredients 3 , start time, automatic cycle batching 3 times. Such as C7 = 99 , the infinite cycle of ingredients		
Relay 1 is the rapid reduction of material, relay 2 is slow materialreduction , relay 3 is the lack of material feeding, relay 4 is overload alarm			
Indicator outputs 1 , 2 , 3 , 4 correspond to relays 1 , 2 , 3 , 4 respectively			
Switch 1 is the start / stop switch, switch 2 is the pause / continue switch, when the ingredient starts 【run】 indicator light			
A = 1000	Reduce the expected value of 1000 ingredients ;		
B = 100	Rapid reduction of material in advance of the amount of 100 ; rapidreduction expected to (1000-100) = 900 , the material 1 relay is turned off.		
C = 20	Slow material reduction in advance of the amount of 20 ; slow down expected to (1000-20) = 980 , the material 2 relay is off;		
D = 1200	Lack of material weight limit, when the controller weight is less than this value fed, feed 3 relay opens.		
E = 5000	When the weight of the controller is greater than or equal to this value, the feeding is finished and the relay of the material 3 isclosed.		
F = 6000	Overload weight value, the controller weight is greater than this value, material 4 relay to open the alarm.		
P = 10	Reducing the allowable error of 10 ; material 2, the actual feeding weight is less than (1000-10) = 990 when the jog reduction. Jogging time is C5 , Jogging time is C2 . If set to 0 , no jogging is activated.		
Control process is as follows: Start / stop switch Jog once, according to C7 set the number of automatic cycle batching 3 times. After 1.0 second start delay, the controller for rapid material reduction, fast material reduction when the relay 1and relay 2 at the same time open, to reduce the expected material to 900 when the relay 1 to slow down into the material, slow material expected to slow the material to 980 stop , The relay 2 closed, after 2.0 seconds after the stability of thedelay, the controller to determine whether the actual reduction in material error tolerance, such as excess start point to reduce the material until the actual reduction of weight greater than 990 so far, a reduction of ingredients, delay 2Second cycle to enter the next reduction of ingredients, 3 times to complete the ingredients automatically exit the ingredients cycle. (Corresponding to the indicator light when the relay output is valid)			

4.8.11Example of output mode 10 (automatic weight control)

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes
FN5.1 = 10	Mode 10, automatic weight segregation control
Relay 1 is the lower limit of the output of the sub-test, the relay 2 is the upper limit of output, the relay 3 is the separation of qualified output	
Indicator outputs 1, 2, 3, 4 correspond to relays 1, 2, 3, 4 respectively	
Switch 1 is the seperation start / stop switch, when the operation starts, the indicator lights	
A = 1000	The upper limit weight value of the sorting result is 1000, the weight of goods after sorting is bigger than this value, the current cargo is overweight and the upper limit relay output is valid.
B = 900	The lower limit of the results of the sub-test value of 900, the weight of goods after the sub-check is less than this value, that the current light weight of the goods, the lower limit relay output is valid.
C = 400	The weight value of the goods on the sorting table is 400. When the weight detected by the controller is larger than this value, the controller thinks the goods has started to go on the sorting table.
D = 300	The weight threshold for the goods under the sorting table is 300. When the weight detected by the controller is less than this value, the controller assumes that the goods have begun to leave the sorting table. ***Note: The parameter must be set to meet C> d ! . .***
E = 1.00000	The correction factor is 1.00000 and the default value is 1.00000 . When the weight of the controller is different from the actual weight, it can be adjusted by modifying the weight coefficient .
C1 = 0.2	C1 is the goods on the censoring time, when the controller detects the weight is greater than the value of C , the controller delay C1 = 0.2seconds after the time that the goods completely in the separation table, the value of goods by the actual time .
C2 = 0.5	C2 is the time the goods stay in the inspection station, the effective weight of the sub-test in the C2 = 0.5 seconds this time to collect
C3 = 0.2	C3 is the time of the goods under the inspection table, when the controller detects the weight is less than d value, the controller delay C3 = 0.2 seconds after the goods that leave the separation of Taiwan, the value of goods under the actual time of the sub- Settings.
C4 = 1.0	C4 = 1.0 sec is the holding time of the result of the sorting, which is the display time of the weight of the controller and the holding time of the relay output result.
C7 = 90	C7 is the effective data rate of the controller sampling in the residence time of the goods. The setting range is 0-99% , generally about 90% .
The control process is as follows: When the running status is off, the 【RUN】 indicator is off, the start / stop switch is jogged once and the controller enters the automatic operation status. The controller first checks whether the weight is greater than the upper limit of the inspection stage weight. When the weight is greater than 400 , the controller considers the	

goods to be on the sorting table. Then, after C1 = 0.5 seconds, the goods are considered to be completely on the sorting table. When the controller weight is less than 300, the controller will assume that the goods will leave the picking station completely in C3 = 0.2 seconds. At this time, the controller will display the actual weight of the processed goodsin C2 = 0.5 seconds. The weight of the sub-check, while the relay output of the actual results of the seizure, to maintain C4 = 1.0 seconds after the end of the current cargo sorting process, enter the next cargo seizure.

4.8.120utput mode 11 (external control trigger weight segregation control) for example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes
FN5.1 = 11	Mode 11, the external control weight segregation control
Relay 1 is the lower limit of the output of the sub-test, the relay 2 is the upper limit of output, the relay 3 is the separation of qualified output	
Indicator outputs 1, 2, 3, 4 correspond to relays 1, 2, 3, 4 respectively	
Switch 1 is the seperation start / stop switch, switch 2 is the external control trigger switch, trigger a goods seized once, at the start of operation 【】 indicator light	
A = 1000	The upper limit weight value of the sorting result is 1000, the weight of goods after sorting is bigger than this value, the current cargo is overweight and the upper limit relay output is valid.
B = 900	The lower limit of the results of the sub-test value of 900, the weight of goods after the sub-check is less than this value, that the current light weight of the goods, the lower limit relay output is valid.
C = 400	The weight value of the goods on the sorting table is 400. When the weight detected by the controller is larger than this value, the controller thinks the goods has started to go on the sorting table.
D = 300	The weight threshold for the goods under the sorting table is 300. When the weight detected by the controller is less than this value, the controller assumes that the goods have begun to leave the sorting table. *Note: The parameter must be set to meet C> d ! . .*
E = 1.00000	The correction factor is 1.00000 and the default value is 1.00000. When the weight of the controller is different from the actual weight, it can be adjusted by modifying the weight coefficient.
C1 = 0.2	C1 is the time on the goods inspection table, when the controllerreceives the trigger signal, the controller delay C1 = 0.2 seconds after the time that the goods fully in the sorting table, the value of goods on the actual time to set the stage.
C2 = 0.5	C2 is the residence time of the goods on the censoring table, and the effective weight

	is collected at C2 = 0.5 seconds.
C3 = 0.2	C3 is the time of the goods under the inspection table, when the controller detects the weight is less than d value, the controller delay C3 = 0.2 seconds after the goods that leave the separation of Taiwan, the value of goods under the actual time of the sub- Settings.
C4 = 1.0	C4 = 1.0 sec is the holding time of the result of the sorting, which is the display time of the weight of the controller and the holding time of the relay output result.
C7 = 90	C7 is the effective data rate of the controller sampling in the residence time of the goods. The setting range is 0-99%, generally about 90%.
The control process is as follows: When the running status is off, the 【RUN】 indicator is off and the start / stop switch is jogged once and the controller enters the running status. The controller first loop waiting for detection trigger signal is valid, when the trigger signal is active, the controller that the commencement of the sorting table, then delay C1 = 0.2 seconds after the goods have been fully considered in the sorting table, then C2 = Within 0.5 seconds, the controller starts to collect and process the weight data of the goods. When the controller detects the weight of less than 300, the controller will think that the goods will leave the sorting table completely in C3 = 0.2 seconds. At this time, The weight of the sub-check, while the relay output of the actual results of the seizure, to maintain C4 = 1.0 seconds after the end of the current cargo sorting process, into the next cargo seizure.	

4.8.130utput mode 12 (external control transient peak) for example

Note : Press 【SET】 to set relay parameters directly.

Variable settings	Notes
FN5.1 = 12	Mode 12, the external control instantaneous peak
Relay 1 is the peak low limit output, relay 2 is the peak upper limit output, relay 3 is the peak qualified output	
Indicator outputs 1, 2, 3, 4 correspond to relays 1, 2, 3, 4 respectively	
Switch 1 is the peak start / stop switch, peak detection starts 【run】 indicator light	
A = 1000	Peak value of the upper limit of 1000, the actual peak is greater than this value, that the current peak over the limit, the upper limit relay output is valid.
B = 900	Peak value is lower than 900, the actual peak value is less than this value, the current peak value is less than the lower limit, the lower limit relay output is valid. The actual peak in the 900 to 1000, the qualified relay output is valid.
C = 500	The peak start capture threshold is 500. After the peak capture starts and the controller displays a value greater than 500, the controller starts to pick the saved peak.

D = 300	The peak end capture threshold is 300. After the controller displays a value less than 300, the controller ends the peak capture after the effective peak value is captured. Note When setting parameters: c> d.
C1 = 2.0	The peak hold time is 2 seconds. C1 value is not set to 0, peak hold C1seconds after the automatic release to maintain, and then automatically enter the next peak detection. If the value of C1 is set to 0, press the start / stop switch or the [EXIT] key to cancel the peak hold. If you need to enter peak detection again, press the start / stop switch or the [EXIT] key again.
The control process is as follows: Press the start / stop switch or the [Exit] key to start the peak detection. At this time, the 【RUN】 indicator is on. When the controller shows the value greater than 500, the controller will start to pick the peak value, the controller will display the value less than 300, Capture, display window to maintain peak for 2 seconds, the relay output is also maintained for 2seconds, 2 seconds after the end of a peak detection, automatically start the next peak detection.	

4.9 Information prompts

Controller prompts	Description of the message
Err 01	Data conversion error
Err 06	wrong password
AdcErr	ADC chip failure
ON-OFF	The controller performs a power cycle
OUER	Weight overload
FFFF	Ingredients discharge tips
ESC	Cancel the setting

5 Maintenance and Precautions

☹ ✋■ order to ensure the controller clear and life, the controller should not be used in direct sunlight, place the place should be more smooth.

☹ should not be placed in the dust and vibration serious place to avoid using in a humid environment !

☹ Sensors and controllers should be connected reliably, the system should have good grounding, away from strong electric field, strong magnetic field, sensor and controller should be away from strong corrosive objects, away from flammable and explosive materials ! Do not flammable gas or flammable vapor Of the occasion, shall not be used in the pressure vessel canned system !

● In the area of frequent lightning, lightning arrester must be installed by a reliable, in order to ensure the safety of operating personnel to prevent lightning damage controllers and equipment !

☹ Sensors and controllers are static-sensitive devices, in the use of anti-static measures

must be taken to strictly prohibit welding operation on the scale or other strong electric field operation; in the thunderstorm season, must implement a reliable lightning protection measures to prevent lightning Sensor and controller damage to ensure the safety of personnel and personnel weighing equipment and related equipment safe operation !

- ☹ Do not use strong solvents (such as benzene, nitro oil) cleaning chassis !
- ☹ Do not inject liquid or other conductive particles into the controller to prevent controller damage and electric shock!
- ☹ Before disconnecting the controller and connecting the external devices, power off the controller and the corresponding devices. Before plugging in the sensor cable, you must first cut off the controller power supply! In the plug-in large-screen cable, you must first cut off the controller and large-screen power! Before plugging in the communication cable, you must first cut off the controller and PC power supply!
- ☹ ❄♒♏ external interface of the controller must be used strictly in accordance with the instructions in the operating instructions, and shall not change the connection without authorization. If the controller fails in use, it shall be immediately unplugged and sent to a professional factory for repair. Manufacturers do not repair themselves to avoid greater damage, the controller does not allow free to open, or not warranty.
- ☹ The controller from the date of sale within one year from the date of use in normal use, the emergence of non-human failure is a warranty.
- ☹ Company advice customers: the use of the controller before the controller should be tested for acceptance. The company is only responsible for the quality of the controller itself, the controller is not responsible for the system problems.