

AF-5K II -116B /AF-10 K II -106B

Auto filler

Operating instruction

杰·曼·科·技

531701020021 Ver A1

Content

1. overview.....	1
1.1 Product parameters, functions and features	1
1.1.1 Product parameters	1
1.1.2 Product features.....	1
1.1.3 Product features.....	2
1.2 Working principle	2
1.3 Main purpose and scope of application	2
2. Precautions for safe use.....	3
2.1 Safe operation	3
2.1.1 Basic Safety Instructions.....	3
2.1.2 Operation safety instructions	3
3. Product installation and transportation protection	5
3.1 The overall appearance and mechanism of the product are introduced	5
3.2 The installation conditions.....	6
3.2.1 Equipment installation basis and installation conditions.....	6
3.3 Unpacking and inspection.....	6
3.3.1 The crates	6
3.3.2 Spare parts	7
3.4 Product packaging and transportation protection	7

3.4.1	Packaging requirements	7
3.4.2	Transport protection	8
3.4.3	Remove transport limit protection	9
3.4.4	Requirements for equipment installation and maintenance	9
4.	Product size	10
4.1	AF-5KII-116B Overall dimensions	10
4.2	AF-10KII-106B Overall dimensions	13
5.	Electrical connections	15
5.1	Air supply connection	15
5.2	Electrical connections.....	15
5.2.1	External interface definition.....	16
5.2.2	Switching value interface wiring description	17
6.	The Modbus address table	18
7.	Touch screen Operation Instructions (optional)	49
7.1	Login screen.....	49
7.2	Touch screen login permission description.....	50
7.3	Main Interface description.....	51
7.4	The parameter setting page is described	53
7.5	Description of working parameters	54
7.6	Description of formula parameters.....	58
7.7	Calibration interface description	61

7.8	Step of weight calibration.....	61
7.9	Material calibration steps	62
7.10	Description of switch quantity interface	63
7.11	Control Parameters screen Description.....	68
7.12	Communication Parameters screen description.....	69
7.13	Historical data page description.....	71
7.14	Description of automatic balance adjustment interface.....	72
7.15	Describes the user management interface	73
7.16	System information interface description.....	74
8.	Basic Function description.....	77
8.1	Basic running process	77
8.2	Overage and underage detection function.....	77
8.3	Overage and underage detection function.....	78
9.	Common failure analysis and troubleshooting	80
10.	Maintenance and warranty.....	81

Shenzhen General Measure Technology Co., Ltd. All rights reserved.

Without the permission of Shenzhen General Measure Technology Co., Ltd., no unit or individual shall reproduce, disseminate, transcribe or translate into any other language version in any form or means.

As our products are constantly improving and updating, we reserve the right to modify this manual at any time without prior notice. To this end, please visit the company website frequently for timely information.

Company website: <http://www.gmweighing.com>

1. overview

AF-5KII-116B / AF-10KII-106B automatic quantification unit is a weighing component for automatic quantification of granular materials. The feeding mechanism adopts the mode of "motor + vibration feeder" to realize multi-stage feeding, and the unloading is driven by cylinder to realize fast unloading. The product has the characteristics of high speed, high precision and wide range, which can be widely used in the quantitative packaging machinery of grain, feed, chemical, rubber and plastic industries.

1.1 Product parameters, functions and features

1.1.1 Product parameters

model	AF-5KII-116B	AF-10KII-106B
Electrical source	AC220V±10%, 50/60Hz, 1000W	AC220V±10%, 50/60Hz, 1000W
The quantitative range	0.25~5kg	0.5~10kg
The weighing accuracy	±2g	±3g
Weighing speed	≥1600pcs/hour	≥1600pcs/hour
Metering bucket volume	8L*2	15L*2
Working temperature	0~40°C	0~40°C
Maximum humidity	90% OF R.H is not dewy	90% OF R.H is not dewy
Gas source	0.4 ~ 0.6 MPa after 2 m/h	0.4 ~ 0.6 MPa after 2 m/h

Note: packaging accuracy and speed may fluctuate due to material, feed and other environmental factors. The precision and speed are the test data of using round grain rice in our company's test line.

1.1.2 Product features

1. Automatic weighing function.
2. Three material speed (free blanking + vibration feeding) feeding control.
3. Automatic zero clearing function.
4. Automatic correction function of process control parameters.

5. Accumulative and statistical functions.

1.1.3 Product features

1. Intelligent: only set the target value, and automatically adjust the optimal quantitative speed under the condition of ensuring the accuracy.
2. Simple installation: standard external interface flange, quick installation.
3. Data export: with USB interface, data record export is more convenient.
4. Simple operation: 7 inch /10 inch touch screen, Chinese and English display (optional).
5. Material: 304 stainless steel for contact material.
6. High speed, high precision: the combination of feeding (free feeding + vibration feeding), both fast and accurate.

1.2 Working principle

The equipment starts the three-material fast feeding process, namely: fast, medium and slow feeding. The switch of each speed feeding takes the corresponding advance quantity in the formula as the control cut-off point. In order to avoid the influence of overshoot on measurement, the corresponding prohibition discriminant time is set. After feeding, enter the value setting process, the value setting time can be set, after the end of the value, the equipment through the switch output "feeding complete" signal; The equipment receives the external "unloading" effective switching signal, the equipment will drive the cylinder to open the unloading door of the metering bucket, when the weight of the material in the metering bucket is lower than the zero zone value set before, the equipment drives the cylinder to close the unloading door, complete a quantitative process; Before starting the next quantification process, the equipment carries out a pre-feeding delay, and then the next feeding, and so on.

1.3 Main purpose and scope of application

The AF-5K II -116B / AF-10K II -106B equipment is mainly designed for quantitative packaging of granular materials of 5kg/10kg and below. It can be used together with vacuum shaping packaging machine. Measurable materials are mainly rice and grains of small size (such as millet, soybean, mung bean, etc.)

2. Precautions for safe use

2.1 Safe operation

Before installing and using the product, read the product instruction carefully and have the equipment tested by professional personnel

2.1.1 Basic Safety Instructions

1. The power supply meets the requirements of this manual, and the equipment grounding meets the requirements.
2. Power and air should be turned off before starting cleaning, maintenance and repair.
3. Only use cleaners that do not damage mechanical and electrical equipment.
4. The mounting frame connected with the product should be stable and reliable.
5. Please cut off the power supply and air source when installing the metering bucket.
6. metering bucket, sensor connected parts and sensors are not allowed to knock, overload and other damage to the sensor behavior.
7. During the use of the equipment, no part of the body is allowed to extend into the equipment, and the weigher door has been firmly installed before use.
8. Machines that pack materials harmful to human body should be cleaned after using special protective tools according to the existing regulations of the country where the machines are operated. For details, please contact the relevant local authorities.

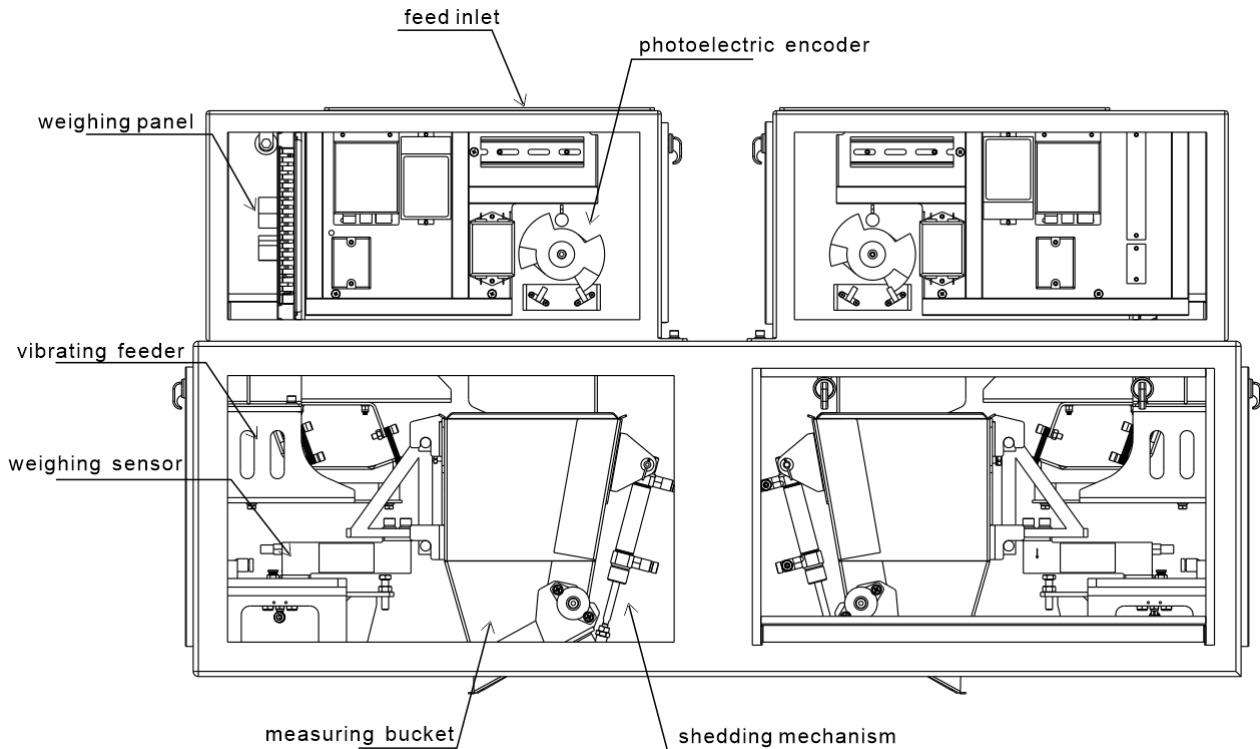
2.1.2 Operation safety instructions

1. In order to avoid dangerous accidents, only one person is allowed to operate the machine.
2. The machine should only be operated by properly trained personnel.
3. Operating instructions, especially safety instructions and regulations, must be read and fully understood by the operator (or anyone responsible for operating the machine) before the machine is run.
4. Before the machine runs, the operator must check whether the scale works normally, whether the machine is fixed and the appearance is normal.

5. In case of any danger, click the "emergency stop" button on the main interface or disconnect the main power supply immediately.
6. For the electrical and electronic system, it is not allowed to modify, replace or carry out any other non-standard operation; Any updates or modifications must be made by General Measure technologies.
7. Wear safety helmets and other protective devices when maintaining equipment, especially when entering the packaging area.
8. Be careful to step on or off the maintenance platform.

3. Product installation and transportation protection

3.1 The overall appearance and mechanism of the product are introduced



Material by the materials into the mouth, including three quantitative process speed feeding control (motor control of the coarse/fine + vibrating feeder feeding material), quantitative weighing type and discharging control, equipment control system can automatically according to the different of material and range correction process parameters, reducing the complexity of equipment debugging and maintenance, convenient supporting customers to use. When using, 0.4~ 0.5mpa, 2m³/h compressed air is needed to access the air source inlet, and the power supply, signal communication and control ports (such as serial port connection end, USB connection and I/O control port) of the equipment are located in the electrical control box.

The double scales are arranged symmetrically according to the direction shown. Scale A is on the left and scale B is on the right. Contains the following parts:

Feeding port: the material to be weighed enters the scale body.

Weighing control panel: feeding and unloading action control, weighing data processing and result output.

Vibration feeder: the main function of weighing is to control the feed quantity.

Photoelectric code plate: motor in position signal feedback.

Weighing sensor: weight signal acquisition.

Measuring bucket: temporarily store the materials to be weighed quantitatively weighing materials and unloading.

Unloading mechanism: unloading is completed by this mechanism after weighing.

3.2 The installation conditions

3.2.1 Equipment installation basis and installation conditions

1. Temperature: -10~40°C
2. Humidity: not more than 90% R.H.
3. Power supply: AC110~260V, 50Hz/60Hz, about 500W.
4. Air source: 0.4~ 0.5mpa 1.2m³/h.
5. Installation plane: horizontal solid steel support frame.
6. Static electricity: Ensure that the device is reliably grounded.
7. Harmful radio waves: keep away from powerful sources of harmful radio waves such as wireless devices.
8. Electrical and gas technical parameters meet and are in place

3.3 Unpacking and inspection

3.3.1 The crates



Please read this operation manual carefully before unpacking for

1. Pay attention to the words and warning signs on the containers before unpacking them.

2. Before unpacking the box, check whether the box is seriously squeezed and deformed during transportation. If the damage is serious, consider whether the equipment is damaged.
3. Read the packing list before unpacking and proofread it after unpacking to avoid omission.
4. After unpacking the device, check whether the screws connecting the device are loose.
5. Check whether the metal hose is in good condition before unpacking the device.
6. After unpacking the whole machine, check whether the scale is normal and whether the action of the moving parts is normal.
7. During debugging after the assembly of the unpacked machine, pay attention to whether the sealing of the parts through which the material passes under the predetermined pressure is reliable. This check must be made before starting the machine.

3.3.2 Spare parts

1. Accessories: equipment side panel opening key, packing list, invoice, product manual and quality inspection certificate.
2. Unpack the device and check whether the accessories are complete and whether the device package is intact.
3. Original General Measure Technologies must be used.

The company is not responsible for the loss caused by using other parts.

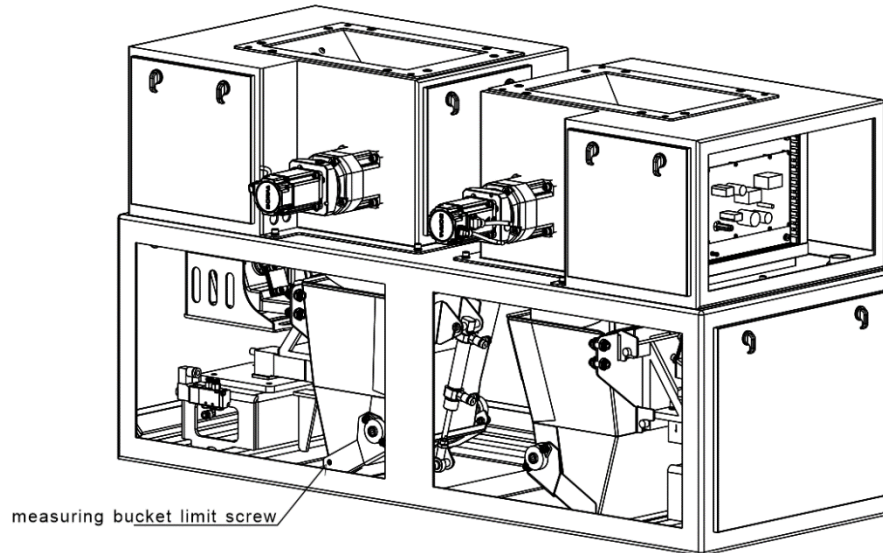
If you have any questions, please don't hesitate to contact us.

3.4 Product packaging and transportation protection

3.4.1 Packaging requirements

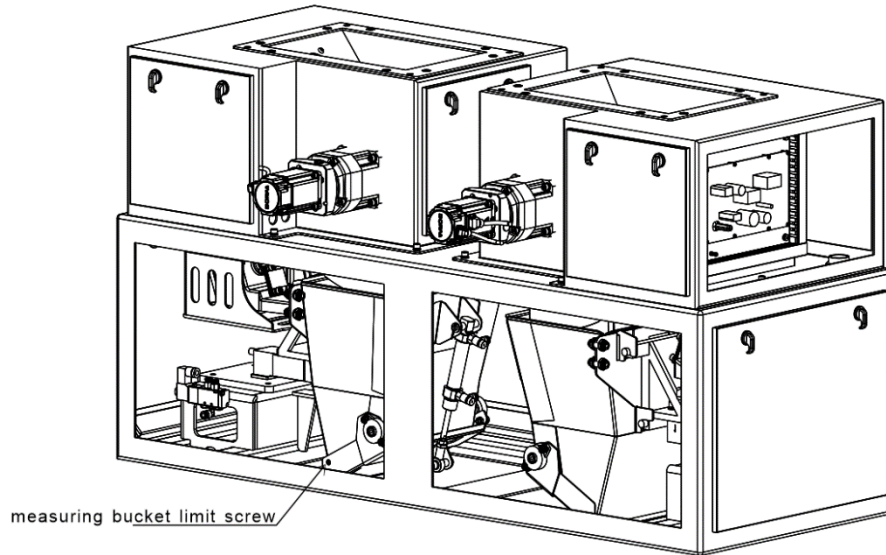
- 1 Single, double machine two kinds of packing boxes.
2. Packed in wooden cases, stackable in two layers, GB/T4857.3 Basic test for transport packages, static load stacking test method.
- 3GB/T4857.7 Transport package basic test, sinusoidal vibration (constant frequency) test method.

3.4.2 Transport protection



1. Before transportation, the measuring bucket limit screw is installed and fixed, and the measuring bucket is removed and fixed separately in the packing wooden case.
2. The lower flange mouth of the equipment is used to fix the equipment to the wooden transport box with nuts
3. The appearance of the device wrapped by winding film

3.4.3 Remove transport limit protection



After the equipment is unpacked and checked without error, install the measuring bucket as shown in the picture into the scale body, remove the limit screw of the measuring bucket, and close the screw for use in transportation.

3.4.4 Requirements for equipment installation and maintenance

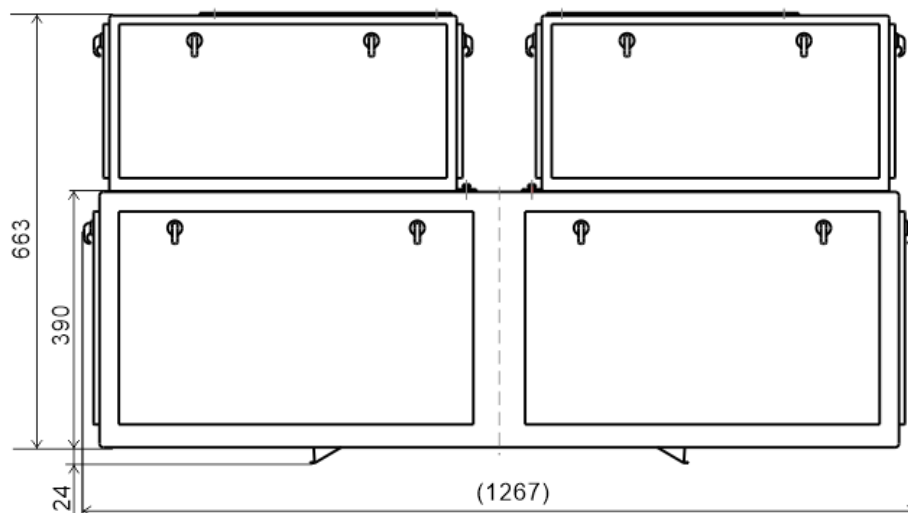
- 1.The operator must accept the company's skill training and safety education, and hold a work permit.
- 2.The personnel responsible for operating the machine must read and fully understand the operation manual.
- 3.Operators must have short hair or long hair up, clothing and shoes and hats should be easy to work.Wear a safety helmet and insulating shoes during testing or maintenance.
- 4.The operator must strictly follow the procedures and steps stipulated in the user manual.
- 5.Before lubrication, mechanical adjustment, maintenance and repair of the equipment, the power supply shall be cut off, the air source shall be closed, the residual pressure in the pneumatic pipeline shall be released, and the warning signs shall be hung at the electric control cabinet, the power switch and the air source valve.
- 6.The maintenance and repair of the air pressure system must be carried out under the condition of cutting off the power supply and releasing the pressure completely.

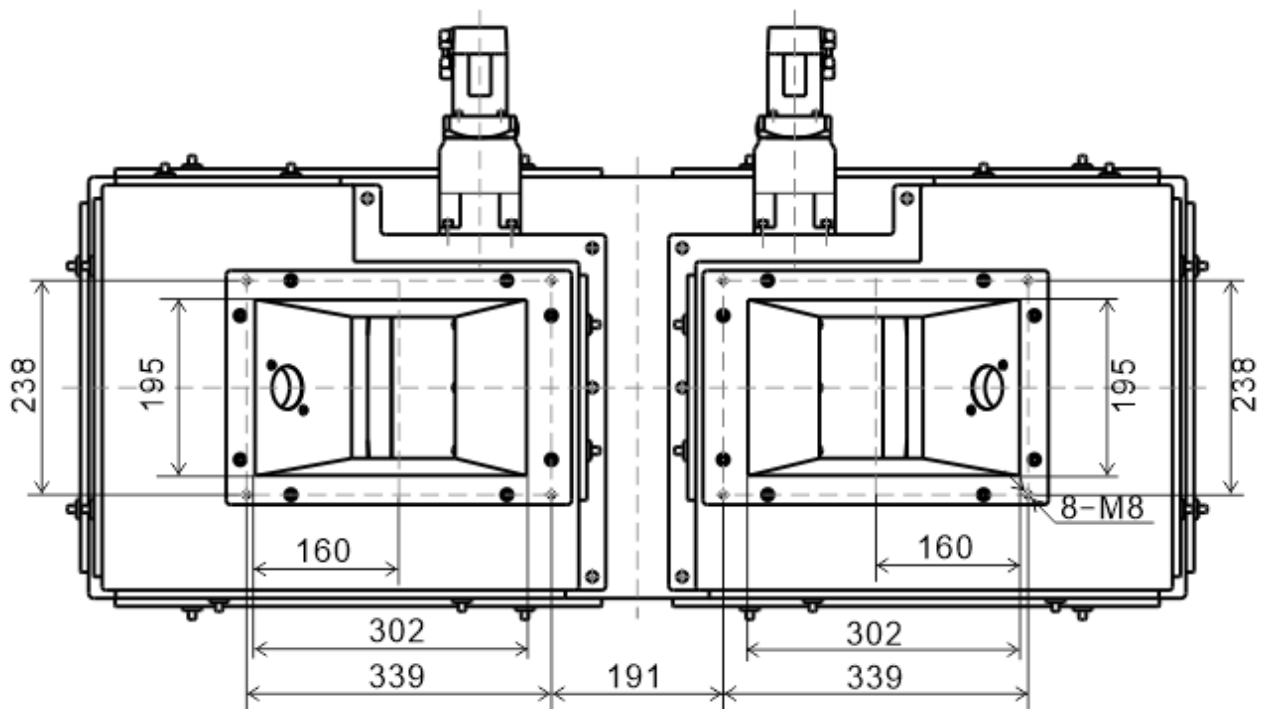
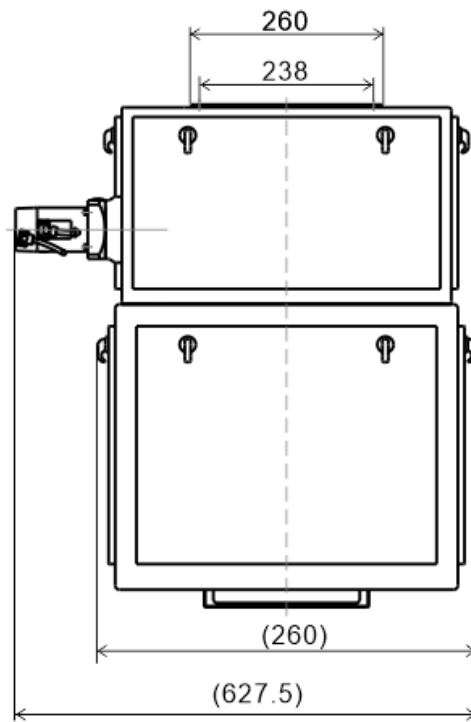
7. The production line shall not be operated until all safety protection facilities are in place.
8. After the device is powered on, do not touch the moving parts of the device.
9. When the production line is in operation, do not enter dangerous areas or cross the production line.
10. Do not modify the setting parameters of wiring in the control cabinet, motherboard program and driver.
11. The tool installation is reliable and safe, and the operator understands and understands all the safety requirements of the tool.

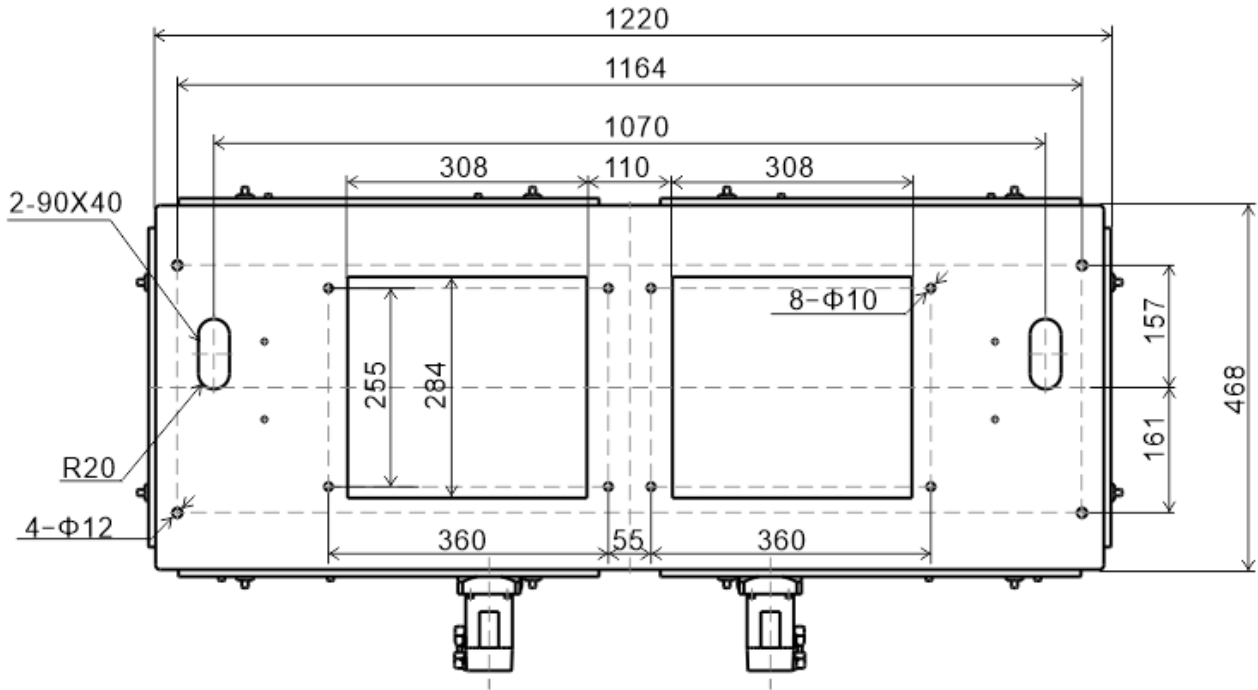
4. Product size

Product size unit: mm

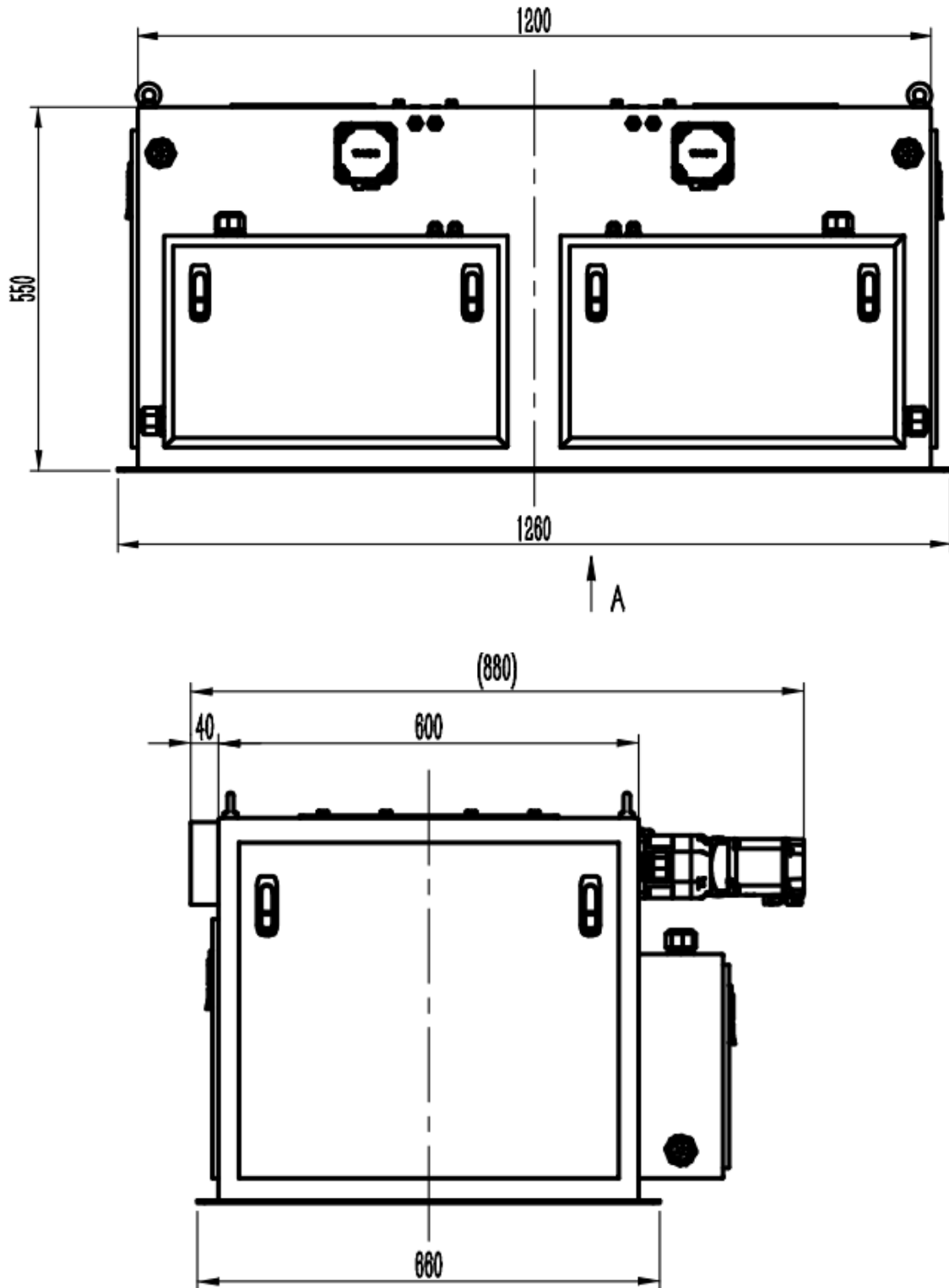
4.1 AF-5KII-116B Overall dimensions

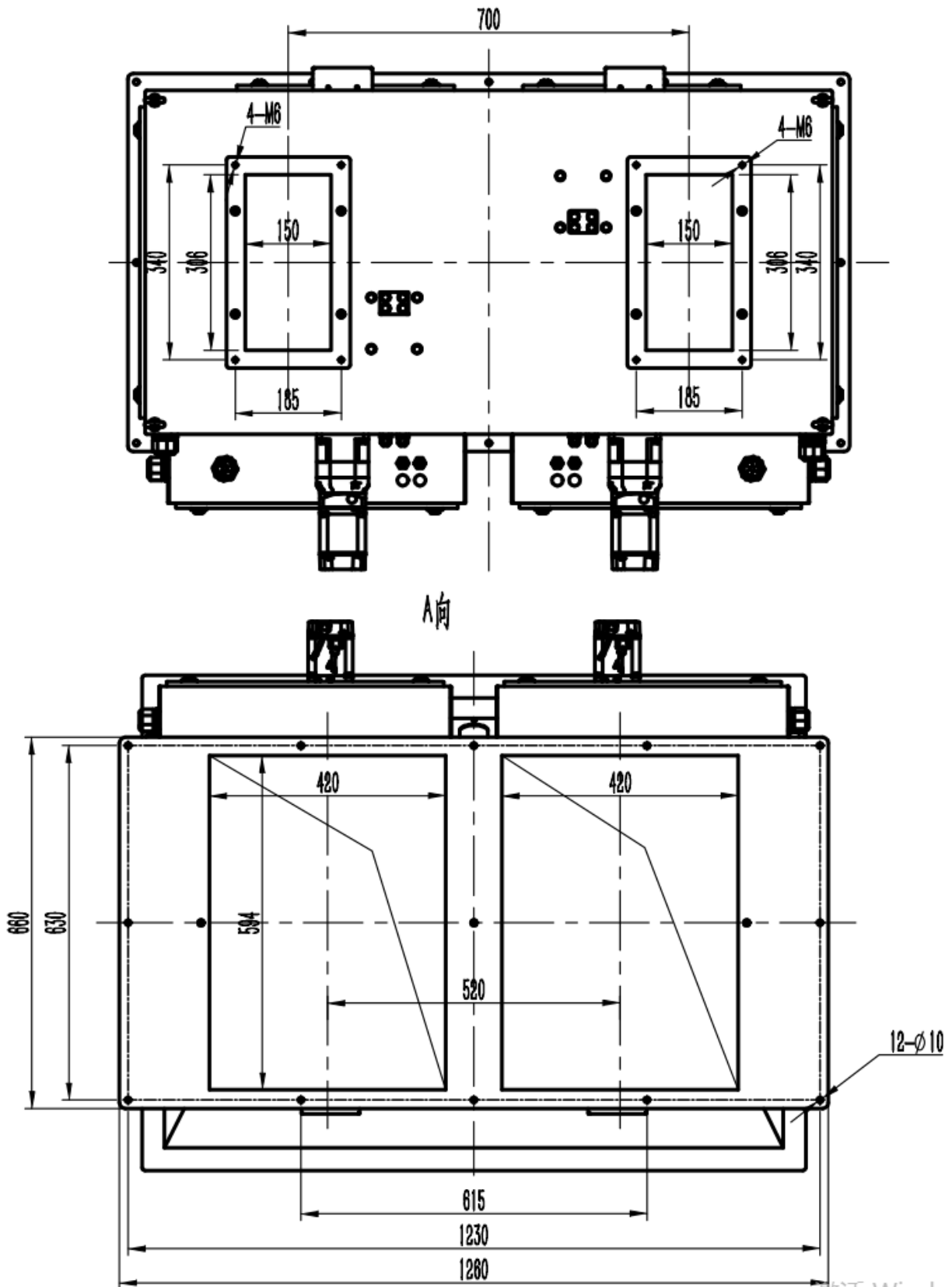






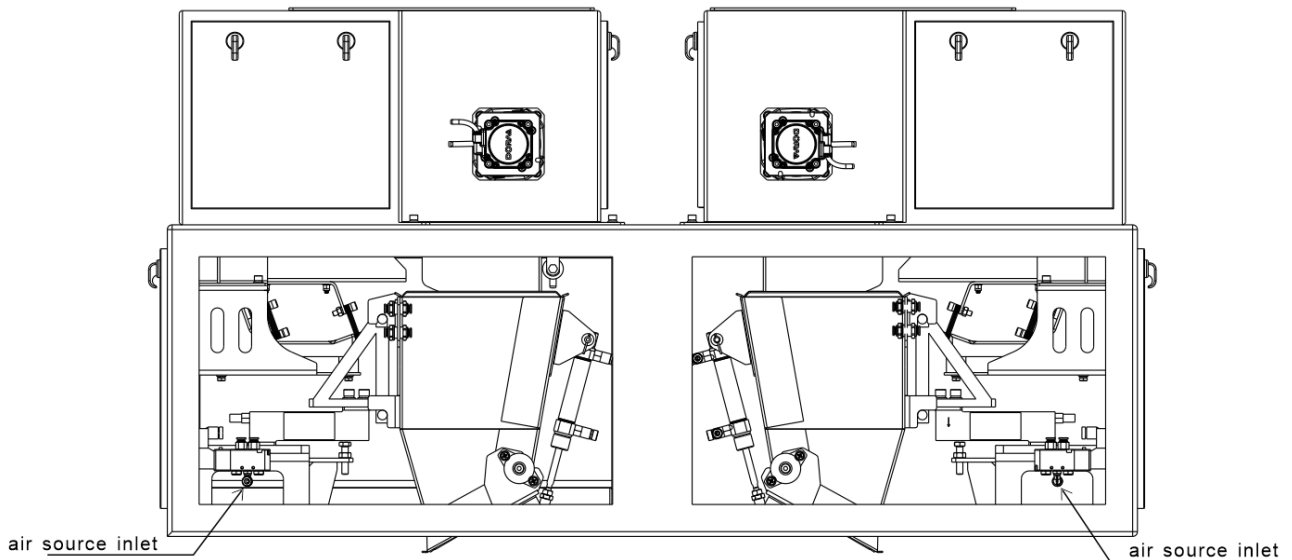
4.2 AF-10KII-106B Overall dimensions





5. Electrical connections

5.1 Air supply connection

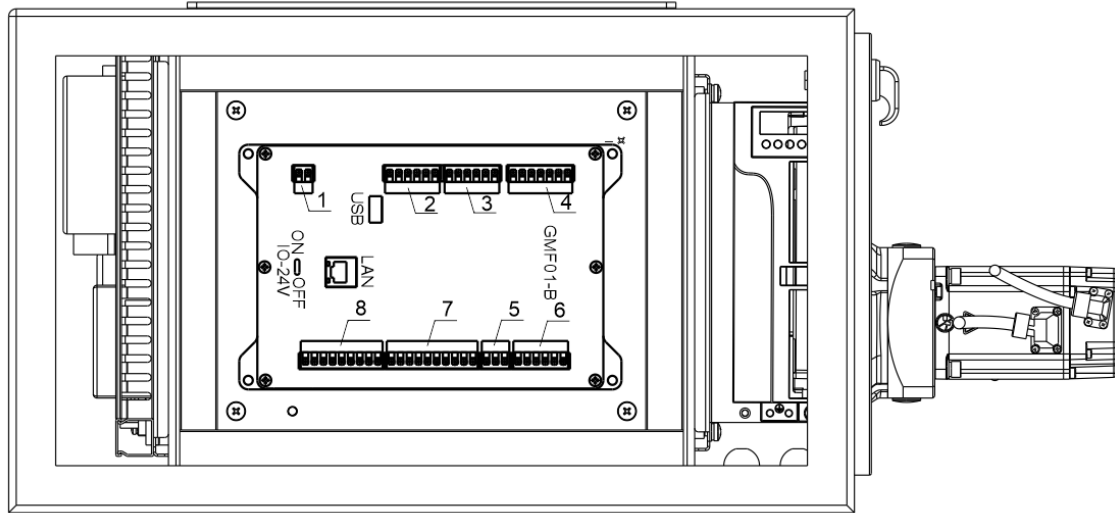


Air source inlet $\phi 6$ air pipe, air source standard: 0.4~ 0.6mpa 2m³/h

5.2 Electrical connections

Insert the single-wire 220V power plug into the onsite power socket.

The internal layout of the electric control box is shown as follows:



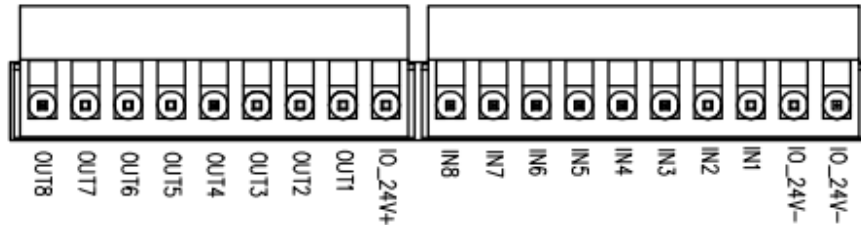
The PCB interfaces are defined as follows:

5.2.1 External interface definition

- 1: Power cord port, 24V power port of the instrument (24V+, 24V -).
 - 2: Motor control port 1, (M1_24V+: 24V positive, M1_24V -: 24V negative, PU1: pulse, DR1: direction, ZT1_1: origin detection input, ZT1_2: feeding door opening limit), can also be used as a common IO port, currently used for feeding motor control.
 - 3: Motor control port 2, currently used as a common IO port.
 - 4: Sensor wire ports, sensor wiring ports (SHLD, EX+, EX -, SN+, SN -, SIG+, SIG -).
 - 5: RS485 serial communication port, serial port 1 (A1, B1, GND1) is generally used for local HMI communication.
 - 6: Two RS485 serial communication ports, serial port 2 (A2, B2, GND2) and serial port 3 (A3, B3, GND3), can be used for upper computer communication, and both support Modbus communication.
 - 7: Input ports, 8 customizable switching input interfaces (IN1, IN2, IN3, IN4, IN5, IN6, IN7, IN8), valid for low levels, and the definition of each port can be selected by yourself.
 - 8: Output ports: 8 customizable switching output interfaces (OUT1, OUT 2, OUT 3, OUT 4, OUT 5, OUT 6, OUT 7, OUT 8). The definition of each port can be selected by yourself.
- USB: USB interface can be used for various data import and export.
- LAN: The network interface can be used for networking and data transmission.

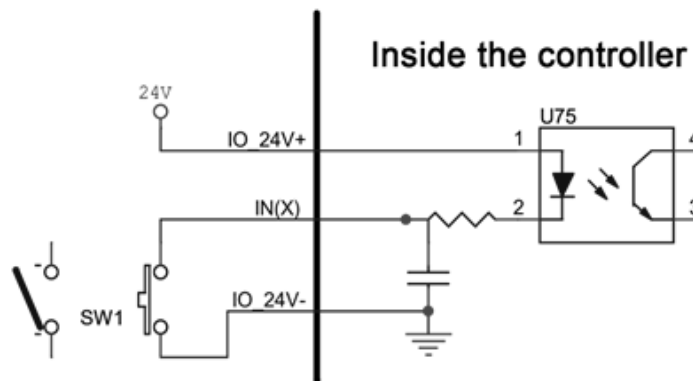
IO-24V: Internal use.

5.2.2 Switching value interface wiring description

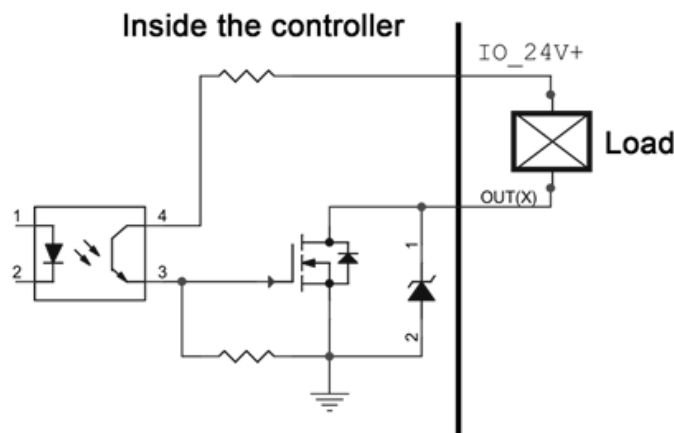


Switching value interface diagram

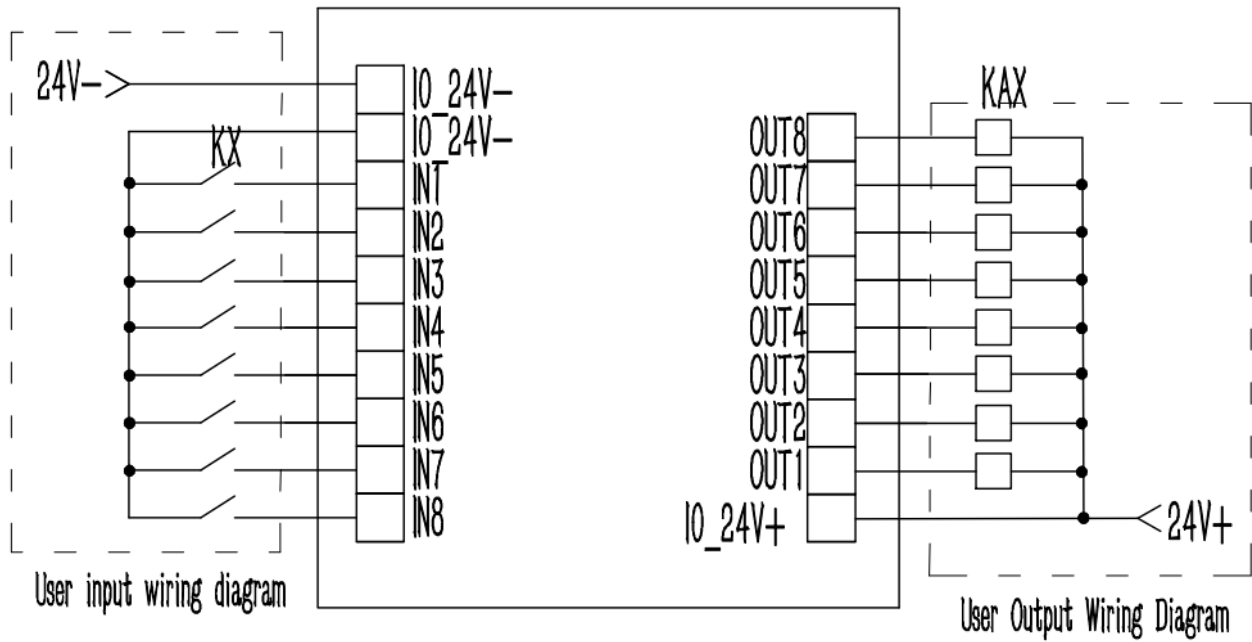
The switching value adopts photoelectric isolation method. If users need to use a switching interface, they need to provide and connect to a DC24V power supply. Switching value input is valid at low level; The output adopts the transistor collector open circuit output mode, and each drive current can reach 500mA.



Schematic diagram of input interface



Schematic diagram of output interface



Wiring diagram of user input and output ports

6. The Modbus address table

In [Communication Parameters], serial port communication is usually modbus-RTU. When the communication parameters are consistent with the Settings of the upper computer, modbus-RTU protocol is used for communication.

PLC address	Function	meaning	instructions
The following is a read-only register (function code 0x03)			
Instrument status parameter			
40001	00000	The current weight	4 bytes, signed number
40002	00001		
40003	00002	Instrument condition 1	position instructions

			. 00:	The AD collection module is abnormal
			. 01:	Memory failure
			. 02:	keep
			. 03:	Abnormal sensor signal
			. 04:	The weight of overflow
			. 05:	Weight is stable
			. 06:	zero
			. 07:	Minus sign
			. 08:	Millivolts are stable
			. 09 ~. 15:	keep
40004	00003	Instrument status 2	. 00.	run
			. 01	Before loading
			. 02	Quickly add
			. 03	To add
			. 04	Slowly add
			. 05	Constant value
			. 06	Super poor
			. 07.	Owe less
			. 08	Call the police
			. 09	Waiting for the clip bag
			. 10.	Clip bag
			. 11.	discharge
			. 12.	Charging to allow
			. 13.	Discharge allow

			. 14.	jam
			. 15.	keep
40005	00004	Instrument status 3	. 00:	keep
			. 01	keep
			. 02:	Complete one package (duration 1S)
			. 03 ~. 15:	keep
40006	00005	Alarm queue 1	. 00.	No alarm
			. 01	Batch to complete
			. 02	Clear out of range (2s)
			. 03	Unstable at zero clearing (2s)
			. 04	Target value 0 cannot start (2s)
			. 05	Pause the gap
			. 06	keep
			. 07.	Disable zero clearing operation in operation (2s)
			. 08	Overage and underage alarm
			. 09	keep
			. 10.	keep
			. 11.	Discharge fault
			. 12.	Discharging timeout
			. 13.	Feeding motor running time out
			. 14.	Discharging motor running timeout
. 15.	Unable to run during emergency stop (2S)			

			. 16.	Zero clearance failure (zero clearance before feeding operation)
			. 17.	Charging a timeout
			. 18.	Steady value judgment timeout (steady value judgment method)
			. 19.	Servo motor alarm
			. 99.	Software authentication failure
40007	00006	Alarm queue 2	1. When there are multiple alarms at the same time, press "Happening" Up to three alarms are displayed at the same time.	
40008	00007	Alarm queue 3		
40009	00008	The default package number	Initial value: 0. The value ranges from 0 to 99999	
40010	00009			
40011	00010	Number of preset packets remaining	Initial value: 0. The value ranges from 0 to 99999	
40012	00011			
40013	00012	Current gross weight	Unlike 40001, this register is not subject to constant weight retention Switch control, when the switch is on, even during unloading, also Return to actual weight	
40014	00013			
40015	00013	Current display value (floating point)	Unlike 40001, this register is not subject to constant weight retention Switch control, when the switch is on, even during unloading, also Return to actual weight	
40016	00014			
40017	00015	Current gross weight (floating point)	= The current display value in the format of a single-precision floating point number	
40018	00016			
40019	00018	The reserved		
...	...			

40030	00029		
40031	00030	Year (readable and writable)	Scope: 2000 ~ 2099
40032	00031	Month (readable and writable)	Scope: 1 ~ 12
40033	00032	Day (readable and writable)	Scope: 1 ~ 31
40034	00033	week	Scope: 1 ~ 7
40035	00034	Hours (readable and writable)	Scope: 0 ~ 23
40036	00035	Points (readable and writable)	Scope: 0 ~ 59
40037	00036	Second (readable and writable)	Scope: 0 ~ 59
40038	00037	System running time	The maximum value of a 0 to 4 byte long integer, exceeding natural reversal, in milliseconds
40039	00038		
40040	00039	The reserved	
...	...		
40050	00049		
40051	00050	Package formula number	Formula number and target value when "packing result weight" is generated, Manual unloading, also do a result save, but the formula number is equal to 0
40052	00051	Package target value	
40053	00052		
40054	00053	Packing result weight	Weight unit is system unit, updated at the end of unloading
40055	00054		
40056	00055	Actual packing time (including waiting time)	Update at the end of unloading, in milliseconds
40057	00056		
40058	00057		

40059	00058	Theoretical packing time (Not including waiting time)	
40060	00059	Delay before feeding (including clear Zero additional delay)	
40061	00060		
40062	00061	Quickly add time	
40063	00062		
40064	00063	To add time	
40065	00064		
40066	00065	Slowly add time	
40067	00066		
40068	00067	Fixed time (slow plus end to Discharging start)	
40069	00068		
40070	00069	Wait for bag clamping (unloading allowed) time	
40071	00070		
40072	00071	Discharging time	
40073	00072		
40074	00073	Actual packing speed	Update at the end of unloading, unit: BPH
40075	00074		
40076	00075	Theoretical packing speed	
40077	00076		
40078	00077	deviation	Signed double word, uncombined mode: packet result - packet target value. Combination mode: the first time, fixed at 0,
40079	00078		

			the second time: combined total result-set the target value
40080	00079	Number of speed sampling packets Nspeed (Readable and write)	Initial value: 6. Range: 6 to 12
40081	00080	Generation date of subcontracting data	Decimal 8-digit month day, such as: 20160111 (2016/01/11)
40082	00081		
40083	00082	Generation time of packet data	Decimal 6-bit time, such as 160552 (16:05:52)
40084	00083		
40085	00084	The reserved	
...	...		
40100	00099		
The following contents are readable and writable (Write a single register function code is 0x06, write multiple registers function code is 0x10, read function code is 0x03)			
Calibration parameters			
40101	00100	The zero calibration	Write 1 to mark zero; read returns 0
40102	00101		
40103	00102	There is weight gain calibration (Input weight)	The value ranges from 0 to 999999, expressed in grams
40104	00103		
40105	00104	Material gain calibration (note Record current AD code)	Input 1 to record the gain AD code, and read returns 0
40106	00105		
40107	00106	Material gain calibration (Input weight)	The value ranges from 0 to 999999, expressed in grams
40108	00107		
40109	00108		Default 3 decimal points, unit: millivolt

40110	00109	Absolute Millivolt (read only)	If the value is 12345, it means 12.345	
40111	00110	Gain millivolts (read only)	Default 3 decimal points, unit: millivolt	
40112	00111		If the value is 12345, it means 12.345	
40113	00112	Calibration result information (read only)	The results	instructions
			0	There is no information
			1	Calibration is successful
			2	The current sensor voltage is unstable
			3	Input weight is not reasonable
			4	The current sensor voltage is too high
			5	The current sensor voltage is too low
			6	Excessive calibration resolution
			The alarm message will be automatically eliminated after 2 seconds. Before elimination, no Allow to calibrate again	
40114 ... 40200	00113 ... 00199	The reserved		
The basic parameters				
40201	00200	unit	Initial value: 1,0: g;1 kg;2: t;3: b	
40202	00201	The decimal point	Initial value: 3. The value ranges from 0 to 4	
40203	00202	Dividing the value	Initial value: 1. Range: 1, 2, 5, 10, 20, 50	
40204	00203	Maximum range		

40205	00204		<p>If the device model is AF-5K, the initial value is 10000</p> <p>If the device model is AF-10K, the initial value is 20000</p> <p>The value ranges from 1 to 999999, expressed in grams</p>
40206	00205	OFL indicates the type	<p>Initial values: 0,</p> <p>0:[maximum range + 9D] display OFL;</p> <p>1:[maximum range *120%] to display OFL;</p> <p>2:[maximum range *150%] to display OFL</p>
40207	00206	Scale range mode	<p>Initial values: 0, 0, 5 k;1:25K;2:50K;3:10K;4: the reserved</p>
40208	00207	Automatic zero clearance interval	<p>Initial value: 80. The value ranges from 0 to 9999, expressed in milliseconds</p>
40209	00208	Start additional clearance times	<p>Initial value: 2. The value ranges from 0 to 9</p>
40210	00209	Additional zero clearance time	<p>Initial value: 1000. The value ranges from 0 to 9999, in milliseconds</p>
40211	00210	Handling method of failure to clear data	<p>Initial values: 0,</p> <p>0: only alarm, lasts 1S, give up zero clearance this time, clear again next time;</p> <p>1: only alarm, lasts 1S, give up zero clearance this time, clear again next time, connect</p> <p>Unable to reset three times, return to stop state!Continue to report to the police</p> <p>2: alarm, but continue to wait for stability, once stable, eliminate the alarm,</p> <p>Automatically continue to run;</p> <p>3: alarm, immediately return to stop state.</p>
40212	00211	Reset the scope	<p>Initial value: 10. Range: 0 to 99, unit: %</p>
40213	00212	Sentenced to stabilizing range	<p>Initial value: 5. Range: 0 to 99, unit: D</p>

40214	00213	Sentenced to stabilizing time	Initial value: 300. The value ranges from 100 to 9999, expressed in milliseconds
40215	00214	Zero tracking range	Initial value: 3. Range: 0 to 9, unit: D
40216	00215	Zero tracking time	Initial value: 2000. The value ranges from 0 to 9999, expressed in milliseconds
40217	00216	Stop the AD filter series	Initial value: 9. The value ranges from 0 to 9
40218	00217	Add AD filter series	Initial value: 2. The value ranges from 0 to 9
40219	00218	Fixed value AD filter series	Initial value: 5. The value ranges from 0 to 9
40220	00219	Discharging AD filter series	Initial value: 2. The value ranges from 0 to 9
40221	00220	Power-on automatic reset switch	Initial value: 0. Range: 0 to 1
40222	00221	Manual unloading cumulative switch	Initial value: 0. Range: 0 to 1
40223	00222	Constant weight hold switch	Initial value: 1 the value ranges from 0 to 1
40224	00223	Unloading mechanism mode	Initial value: 0,0: pneumatic, 1: unidirectional general motor, 2: common motor bidirectional, 3: one-way stepping motor
40225	00224	Unloading working mode	0: timing mode, discharging signal output continuous discharging time (formula Parameter) is turned off. Discharging abnormal after discharging Judge; 1: Judge zero zone mode, signal output, until the weight is below zero zone Value, and then start unloading delay time, when the time is up, close unloading After entering the discharging delay, there is no need to distinguish the weight.

40226	00225	Discharge delay	Initial value: 200. The value ranges from 0 to 9999, expressed in milliseconds
40227	00226	Discharging timeout time	Initial value: 2000. The value ranges from 0 to 20000, expressed in milliseconds
40228	00227	Loose bag model	0: automatically loosens the bag after unloading. 1: automatically loosens the bag after unloading Manual loose bag
40229	00228	Discriminant mode of feeding allowance	0: judge only when start feeding, no longer judge during feeding; 1: Keep judging during feeding.
40230	00229	Allowable discharging discriminant mode	0: judge only when starting unloading, no longer judge in unloading process; 1: Keep judging during unloading.
40231	00230	Over range feeding protection	Initial value: 1, 0: close; 1: on. When on, from the calibration zero (plus zero clearing) Cleared part), the weight is greater than or equal to specification *1.2, then judged OFL, whether or not the maximum range is exceeded. Preventing zero clearing will be large After the weight is cleared to 0, the weight is small, but it is Overcharge. at the same time, adjust the settable value of the clearing range from 99% The whole of 20%
40232	00231	Whether the feeding mechanism contains a vibrating disk	Initial value: 0, 0: no vibration plate. 1: with a vibrating disk.
40233	00232	Type of feeding motor	Initial value: 1, 0: step; 1: servo

40234	00233	Intelligent ban switch	Initial value: 0,0: forbid intelligent ban, when using the set ban 1: intelligent ban on: automatic change according to the feeding speed Set a time limit.
40235	00234	Intelligent judgment switch for current cutoff	0: Off 1: On, the program automatically judges the cutoff state
40236	00235	Outage timeout	Setting greater than 10000 does not work, between 2000 and 10000.It will work even if the intelligent judgment switch for current cutoff is turned off
40237 ... 40242	00236 ... 00241	The reserved	
40243	00242	Fixed value method	Initial value: 0,0: fixed time.1: judge the stability value
40244	00243	Fixed value stabilization timeout	Initial value: 0. The value ranges from 0 to 999. Unit: 0.1s The maximum time allowed to wait for stability when determining the stability value exceeds If the time is not stable, the "fixed value" is used to judge the stable timeout handler Method "handles.0, it doesn't work.
40245	00244	Fixed value judgment timeout processing method	Initial value: 0, range: 0~3, 0: The meter will consider the current weight as the stabilized weight, then Continue with the following steps and alarm [constant value timeout] for 1S. 1: The meter will consider the current weight as the stabilized weight, then Continue the following steps and alarm for 1S. After three consecutive times,

			Return to stop state, continuous alarm [continuous constant value timeout]. 2: alarm, but continue to wait for stability, once stable, eliminate the alarm, Automatically continue running. 3: alarm, immediately return to stop state.
40246	00245	Dual Scale Interlock Mode	Default 0, Range: 0-2, 0: No interlock; 1: Double scale A; 2: Double scale B;
40247 ... 40300	00246 ... 00299	The reserved	
User preferences			
40301	00300	Material no.	Initial value: 1. The value ranges from 0 to 10
40302	00301	The formula,	Initial value: 1. The value ranges from 0 to 20
40303	00302	The target	Initial value: 0. The value ranges from 0 to 999999, expressed in grams
40304	00303		
40305	00304	Step up quickly	Initial value: 0, range: 0 to maximum range, unit: gram
40306	00305		
40307	00306	Add the lead quantity	Initial value: 0, range: 0 to maximum range, unit: gram
40308	00307		
40309	00308	Slow down and advance	Initial value: 0, range: 0 to maximum range, unit: gram
40310	00309		
40311	00310	Zero value	Initial value: 0, range: 0 to maximum range, unit: gram
40312	00311		
40313	00312	Discharging time	Initial value: 300. The value ranges from 0 to 99999, expressed in milliseconds
40314	00313		

40315	00314	Delay before feeding	Initial value: 0. The value ranges from 0 to 99999, expressed in milliseconds
40316	00315		
40317	00316	Fixed hold time	Initial value: 900. The value ranges from 0 to 99999, in milliseconds
40318	00317		
40319	00318	Switch for detecting overcurrent and undercurrent	Initial value: 0. Range: 0 to 1
40320	00319	Ultra difference	Updated at the end of unloading, range: 0~maximum range, unit: g
40321	00320		
40322	00321	Owing to difference	Updated at the end of unloading, range: 0~maximum range, unit: g
40323	00322		
40324	00323	Overtime and undertime alarm	Initial value: 0. The value ranges from 0 to 99999, expressed in milliseconds
40325	00324		
40326	00325	Pause switch over and under difference	Initial value: 0. Range: 0 to 1
40327	00326	Combined mode (read only)	Initial value: 1, Read-only 1 or 2:1 Uncombined mode 2 Combined mode
40328	00327	Feeding level (read only)	Initial value: Automatically determined according to the target value Feeding series,2: two-stage feeding; 3: three-stage feeding. The controller will Automatic selection according to the range is two - stage feed or three - stage feed Material.[grade 2, fast + slow add, add lead and add open [grade 3, add + add + slow add, but add or add quickly If the lead is set to 0 or the opening is set to 0, it still does not go fast plus or medium

			Add]
40329	00328	The opening is configured independently	Initial value: 0. Range: 0 to 1
40330	00329	The formula is quickly widened	Initial value: 8000. Range: 0 to maximum openness
40331	00330	Add the opening in this formula	Initial value: 5000. Range: 1 to the maximum openness
40332	00331	This recipe is slow in opening	Initial value: 1800, range: 2~ maximum openness
40333	00332	Discharge opening of this formula	
40334	00333	Slow feeding function switch	Range: 0-1
40335	00334	Single time of slow feeding and replenishment	Range: 0.1~9.999s
40336	00335	Times of slow feeding and replenishment	Range: 1~9
40337	00336	Cut off the flow	Range: 0~999999
40338	00337	Cut off the flow Slow increase the opening weight	
40339	00338	Flow cutoff slow increase opening	Range: 2000~30000
40340	00339	Combination method count	Range: 0-99
40341	00340	Interlock delay time	Initial value: 1000, range: 0~99999, unit: milliseconds
40342	00341		

...	...	The reserved		
40400	00399			
Switching parameter				
40401	00400	Start/end the switch test	Write 1 to start the switching test; Write 0 to end the switch measurement try	
40402	00401	Input switching test (Read Only)	From low to high each represents an input state	
40403	00402	Output switching test	Each digit represents an output state from low to high	
40404	00403	IN1	The initial instructions	
			1	Enter a list of definitions: I00: No definition I01: start I02: stop I03: stop I04: Feeding stepper motor origin (close the door to A level) I05: Feeding allowed I06: Unloading allowed I07: Clear alarm I08: keep I09: Open/close unloading door [originally manual unloading Function, switch discharging output state] I10: Manual unloading I11: Manual slow add
40405	00404	IN2	2	
40406	00405	IN3	5	
40407	00406	IN4	6	
40408	00407	(1-ZT1)	4	
40409	00408	(1-ZT2)	23	
40410	00409	(2-ZT1)	0	
40411	00410	(2-ZT2)	0	
40412	00411	IN5	0	
40413	00412	IN6	0	
40414	00413	IN7	0	
40415	00414	IN8	0	

			<p>I12: Manually add</p> <p>I13: Manual fast add [by fast open open The door]</p> <p>I14: Manual cleaning [open according to the maximum opening The door]</p> <p>I15: Start/stop (double edge: effective edge, Start;Invalid edge, stop)</p> <p>I16: Start/emergency stop (double edge)</p> <p>I17: Manual unloading (double edge)</p> <p>I18: Manual slow adding (double edge)</p> <p>I19: Manual adding (double edge)</p> <p>I20: Manual quick add (double edge)</p> <p>I21: Manual cleaning (double edge)</p> <p>I22: reset</p> <p>I23: Emergency stop [level](valid, no Start allowed, manual feeding not allowed, not allowed Manual unloading is allowed)</p> <p>I24: feeding stepping motor limit point.</p> <p>I25: Unloading stepping motor origin.</p> <p>I26: limit point of unloading stepping motor.</p> <p>I27: jam</p> <p>I28: Servo motor alarm</p>
--	--	--	--

				I29: Double scale interlock input
40416	00415	OUT1	1	Output definition list: O00: No definition Run O01: O02: Refueling request O03: Feeding stepper motor direction [PW available The signal is set to feed PWM] O04: quick to add I add O05: O06: slow O07: fixed value O08: unloading L O09: over difference O10: alarm 11: clip bag O12: Preset number of packets completed O13: Once packing is completed (unloading is completed After output 1s clock) O14: stop O15 unloading step motor direction O16 Discharging motor running/forward O17 discharging motor reverses O18 feeding PWM[only AVAILABLE for OUT7/OUT8] O19 Discharging PWM[only available at OUT7/OUT8]
40417	00416	OUT2	4	
40418	00417	OUT3	5	
40419	00418	OUT4	6	
40420	00419	OUT5	7	
40421	00420	OUT6	8	
40422	00421	OUT7[DR1]	3	
40423	00422	OUT8[DR2]	8	

40424	00423	OUT9[PWM1]	0	PWM port output definition, definition value reference general
40425	00424	OUT10[PWM2]	0	Custom output port (when PWM1 is set to non-0 ,DR1,PWM1 as the corresponding motor control Output, definition invalid)(when PWM2 is set to non-0 ,DR2,PWM2 as the corresponding motor control Output, definition invalid)
40426	00425	PWM1 function		Initial value, 1,0: off;1: charging PWM;2: unloading PWM
40427	00426	PWM2 function		Initial value, 0,0: close;1: charging PWM;2: unloading PWM
40428	00427	Start the		Write: 1, read: 1: running status, 0: stopped status
40429	00428	scram		Write: 1, read: 1: running status, 0: stopped status
40430	00429	stop		Write: 1, read: 1: Stop signal has been entered (this time packing The process will stop after the end), 0: the stop signal is not entered
40431	00430	reset		Write: 1, read: 1: weight is 0, 0: weight is not 0
40432	00431	Remove alarm		Write: 1, read: 1: no alarm, 0: alarm
40433	00432	Choose the formula		Write: 1, read: 0
40434	00433	Loose bag		Write: 1, read: 1: packed, 0: not packed.
40435	00434	Open/close discharge door		Write: 1, switch unloading door status, valid -> invalid, invalid -> Yes Read: 1: discharging effective, 0: discharging invalid

40436	00435	Slowly add manually	Write: 1, read: 1: slow add effective, 0: slow add invalid.
40437	00436	Manually add	Write: 1, read: 1: add valid, 0: add invalid.
40438	00437	Quickly add manually	Write: 1, read: 1: fast add is valid, 0: fast add is invalid
40439	00438	Manually removing mixture	Write: 1, read: 1: cleaning effective, 0: cleaning ineffective
40440	00439	Manual maximum opening speed	Write: 1, read: 1: fast add is valid, 0: fast add is invalid
40441	00440	Automatic feeding once (fixed value junction Stop after bundle)	Write: 1, read: 1: automatic feeding, 0: not automatic feeding material
40442	00441	Emergency stop	Write :0/1, exit/enter emergency stop lock Read :1: emergency stop, 0: no emergency stop
40443	00442	Manual discharging once	Write: 1, read: 1: discharging, 0: discharging invalid
40444	00443	Allowed to add	Read/write 1, grant valid, read/write 0, grant invalid
40445	00444	Allow unloading	Read/write 1, enable/disable, read/write 0, enable/disable
40446 ...	00445 ...	The reserved	
40500	00499		
Communication parameters			
40501	00500	Serial port 1 Slave (read only)	Initial value, 1. Range: 1 to 99
40502	00501	Serial port 1 communication protocol (only Read)	Initial value: 0,0: Modbus-RTU, 1: Modbus-ASCII

40503	00502	Serial port 1 Baud rate (read only)	Initial value, 3, 0:9600, 1:19200, 2:38400, 3:57,600, 4:115,200
40504	00503	Serial port 1 data format (only Read)	Initial value, 1,0:18N2, 1:18e1, 2:18o1, 3: 18N1
40505	00504	Serial port 1Modbus double word mail Memory order (read only)	Initial value, 0,0: ABCD, 1: CDAB
40506	00505	Serial port 2 Slave machine number	Initial value, 1. Range: 1 to 99
40507	00506	Serial port 2 communication protocol	Initial value: 0,0: Modbus-RTU, 1: Modbus- ASCII
40508	00507	Serial port 2 baud rate	Initial value, 3, 0:9600, 1:19200, 2: 38400, 3:57,600, 4:115,200
40509	00508	Serial port 2 data format	Initial value, 1,0:18N2, 1:18 E1, 2: 18O1, 3:18N1
40510	00509	Serial port 2Modbus High Low Word Order	Initial value, 0,0: ABCD, 1: CDAB
40511	00510	Serial port 3 slave number	Initial value, 1. Range: 1 to 99
40512	00511	Serial port 3 communication protocol	Initial value: 0,0: Modbus-RTU, 1: Modbus- ASCII
40513	00512	Serial port 3 baud rate	Initial value, 3, 0:9600, 1:19200, 2: 38400, 3:57,600, 4:115,200
40514	00513	Serial port 3 data format	Initial value, 1,0:18N2, 1:18 E1, 2: 18O1, 3:18N1
40515	00514	Serial port 3Modbus High Low Word Order	Initial value, 0,0: ABCD, 1: CDAB

40516	00515	Network port IP group 1	0~255
40517	00516	Network port IP group 2	0~255
40518	00517	Network port IP group 3	0~255
40519	00518	Network port IP group 4	0~255
40520	00519	Network port number	0~65535
40521	00520	Network interface communication protocol	0: Modbus-TCP/IP 1: Minicenter 2: Web
40522	00521	High and low byte order of network interface	0: AB-CD 1: CD-AB
40523	00522	MAC1	0~0xFF
40524	00523	MAC2	0~0xFF
40525	00524	MAC3	0~0xFF
40526	00525	MAC4	0~0xFF
40527	00526	MAC5	0~0xFF
40528	00527	MAC6	0~0xFF
40529 ... 40600	00528 ... 00599	The reserved	
External setting parameters			

40601	00600	Clip bag delay	Initial value: 500. The value ranges from 0 to 9999, expressed in milliseconds
40602	00601	Delay before releasing bag	Initial value: 500. The value ranges from 0 to 9999, expressed in milliseconds
40603 ...	00602 ...	The reserved	
40700	00699		
System parameters			
40701	00700	Device model (ASCII code) Character) (read only)	'G'+ 'M'
40702	00701		'-' + 'F'
40703	00702		'0' + '1'
40704	00703		0
40705	00704		0
40706	00705		0
40707	00706		0
40708	00707		0
40709	00708		0
40710	00709		0
40711	00710	Version number (read Only)	4 bytes, unsigned number, such as converted decimal value to 123456, 12.34.56, range: 0 to 999999
40712	00711		
40713	00712	Compile date: year (read only)	2000 ~ 2099
40714	00713	Compile date: Month (read only)	1 ~ 12
40715	00714	Compile date: day (read only)	1 to 31

40716	00715	Compile date: time (read only)	0 ~ 23
40717	00716	Compile date: Fen (read only)	0 ~ 59
40718	00717	Compile date: seconds (read only)	0 ~ 59
40719	00718	Parameters of the reset	Write: 0 resets all (production use, including all the following additional also There are statistical data clearance, cumulative clearance, putter related parameters) (Super user) 1 Reset all (clients) including all below 2 Reset basic parameters 3 Reset calibration parameters 4 Reset user parameters 5 Reset peripheral parameters 6 Reset the adaptive parameters 7 Reset communication parameters 8 Reset Switch Value User-defined parameter 9 Reset adaptive statistics Read: 0
40720	00719	keep	
40721	00720	Enable/disable USB	1: USB is enabled. 0: USB is disabled
40722	00721	The USB device is connected (only Read)	0: the USB device is connected. 1: the USB device is not connected
40723	00722	USB mass storage device Connected (read Only)	0: The USB mass storage device is connected 1: The USB mass storage device is not connected

40724	00723	The reserved	
...	...		
40750	00749		
"Usb flash drive update application" function parameter			
40751	00750	Enter or exit the Bootloader	Read: 0: the main program is automatically entered after a delay of 3 seconds 1: The Bootloader is installed Write: 1: Enters the Bootloader 2: Exits the Bootloader and enters the main program
40752	00751	The USB device is connected (only Read)	0: The USB device is connected 1: the USB device is not connected
40753	00752	USB mass storage device has been installed Connect (read Only)	0: The USB mass storage device is connected 1: The USB mass storage device is not connected
40754	00753	Upgrade file scanning result (only Read)	0: no upgrade file 1: control board upgrade file exists
40755	00754	Control board program upgrade information (read-only)	Zero: no 1: The control board is being upgraded 2: The controller module fails to be upgraded 3: The controller module is successfully upgraded 4: The control board upgrade file does not match the instrument model 5: The upgrade file of the control module is incorrect

			6: The upgrade file of the control board does not exist
40756	00755	Reserved (read only)	
40757	00756	Version number of the upgrade file on the control board	Read: Version number (6 decimal digits)
40758	00757		Write: 1 Upgrade this version of the program
40759	00758	The reserved	
...	...		
40800	00799		
Adaptive correlation parameters			
40801	00800	Adaptive master switch	Initial value: 1 the value ranges from 0 to 1
40802	00801	Self - adaptive & automatic scale adjustment	Initial value: 1. The value ranges from 0 to 4
40803	00802	Positive error function switch	Initial value: 0. Range: 0 to 1
40804	00803	The reserved	
...	...		
40900	00899		
Internal reserved parameter			
40901	00900	The reserved	
...	...		
40916	00915		
40917	00916	Add more time to your sentence	Initial value: 700. The value ranges from 0 to 9999, expressed in milliseconds
40918	00917	The reserved	
...	...		
40923	00922		
40924	00923	Canada time of suspension	Initial value: 700. The value ranges from 0 to 9999, expressed in milliseconds

40925	00924	Slow down the sentence	Initial value: 700. The value ranges from 0 to 9999, expressed in milliseconds
40926	00925	The reserved	
...	...		
41100	01099		
Target value data parameter [Only the target value of each formula under the current material number, it is not supported to read the target value of each formula number of different materials]			
41101	01100	Target value (Formula 1)	The value ranges from 0 to 999999, in grams, read-only
41102	01101		
41103	01102	Target value (Formula 2)	The value ranges from 0 to 999999, in grams, read-only
41104	01103		
41105	01104	Target value (Formula 3)	The value ranges from 0 to 999999, in grams, read-only
41106	01105		
41107	01106	Target value (Formula 4)	The value ranges from 0 to 999999, in grams, read-only
41108	01107		
41109	01108	Target value (Formula 5)	The value ranges from 0 to 999999, in grams, read-only
41110	01109		
41111	01110	Target value (Formula 6)	The value ranges from 0 to 999999, in grams, read-only
41112	01111		
41113	01112	Target value (Formula 7)	The value ranges from 0 to 999999, in grams, read-only
41114	01113		
41115	01114	Target value (Formula 8)	The value ranges from 0 to 999999, in grams, read-only
41116	01115		
41117	01116	Target value (Formula 9)	The value ranges from 0 to 999999, in grams, read-only
41118	01117		

41119	01118	Target value (Formula 10)	The value ranges from 0 to 999999, in grams, read-only
41120	01119		
41121	01120	The reserved	
...	...		
41200	01199		
Cumulative data parameter			
41201	01200	Clear the total accumulated data	Write 1 to clear the total cumulative data and cumulative data of all formulations Write 2 Clear the total accumulated data Do not clear the formula accumulated data
41202	01201	Clear cumulative formula data	Write person 0 to clear all formula accumulations Write 1 to 20 to clear the accumulated data of formula 1 to 20
41203	01202	The reserved	
...	...		
41500	01499		
Packet record parameters			
41501	01500	Total number of entries	Write 0 to clear record, range: 0~50000, update at the end of unloading
41502	01501	View the start number of entries	Range: 1~50000, updated at the end of unloading
41503	01502	The reserved	
...	...		
42000	01999		
Automatic adjustment of weighing parameters			
42001	02000	Automatic balance status adjustment	Read: Automatic balancing Status :0/1: Stop/running.2. Automatic balancing Done.[pause set back to 0 instead of 2], read only

42002	02001	Maximum material type	10~40. Temporarily fixed to 10. Later adjustment. That is, maximum support insurance Store 10 different materials, read only
42003	02002	=40301, current material type	read-only
42004	02003	=40302, current formula number	read-only
42005	02004	=41050, the scale of the current specification is the highest Large range points	read-only
42006	02005	=41096, current target value In the range point	read-only
42007	02006	Automatic weighing times	Initial value: 6. The value ranges from 3 to 10
42008	02007	How many	
42009	02008	Qualified times	
42010	02009	Automatically adjust the scale grade	Initial value: 1, range: 0~4, the smaller the level, the better the speed First, each level increase, small cast time about 0.2S longer
42011	02010	Start/stop automatic adjustment scale	Read: Automatic balance status :0/1: Stop/run (complete state 0), write :1/0: enable/disable automatic balancing
42012	02011	Save the result of automatic balancing	Write 1: saves the result of automatic balancing to the current current material number Formula number, write 2: abandon save, restore the debugging result is silent Value.

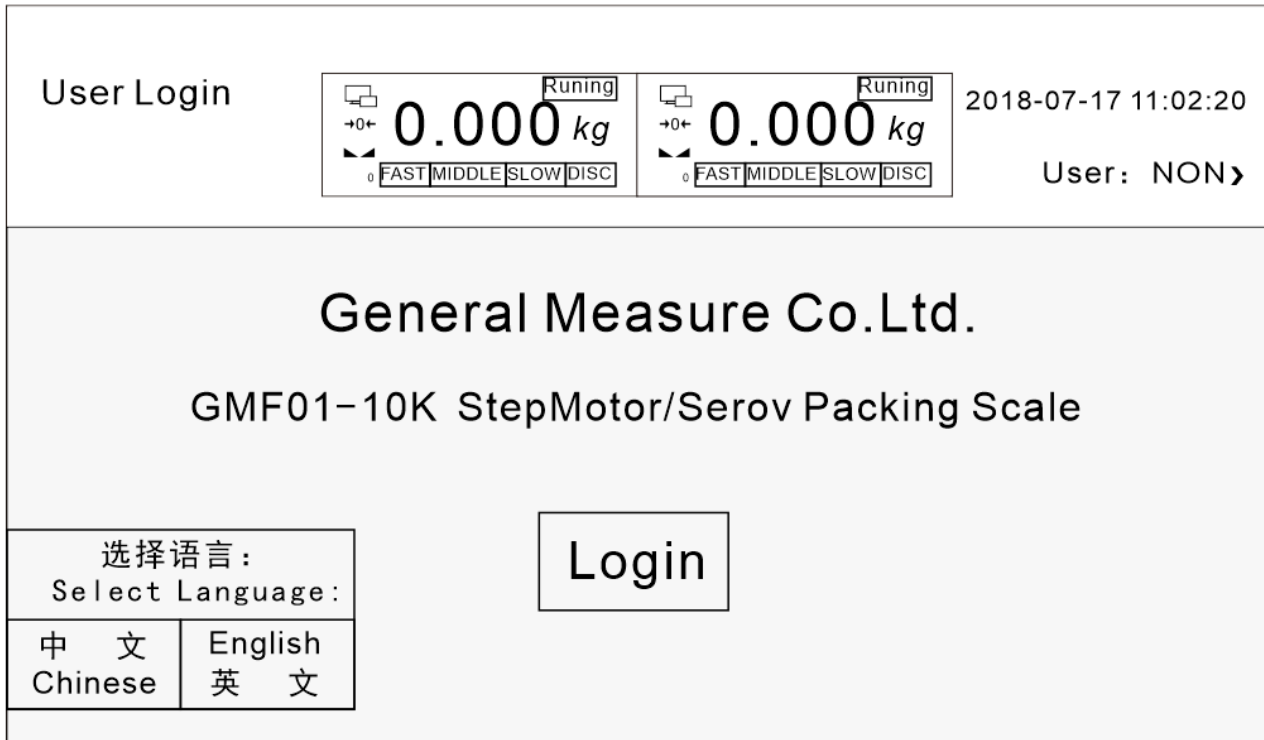
42013	01207	The reserved	<p>X= Material number, Y segment number, material number change, target value change [span Range range], the value of this range may change automatically</p>
...	...		
42020	02019		
42021	02020	Material XSegY fast increase and advance quantity	
42022	02021	The results of	
42023	02022	Add material XSegY in advance	
42024	02023	The results	
42025	02024	Material XSegY slowly add and advance quantity	
42026	02025	The results of	
42027	02026	Material XSegY fast opening knot fruit	
42028	02027	Material XSegY in the opening knot fruit	
42029	02028	Material XSegY slow opening knot fruit	
42030	02029	keep	
42031	02030	Material XSegY fast increase and advance quantity	
42032	02031	The initial value	
42033	02032	Add material XSegY in advance	
42034	02033	Amount of the initial value	

42035	02034	Material XSegY slowly add and advance quantity The initial value
42036	02035	
42037	02036	Material XSegY fast opening Starting values
42038	02037	Material XSegY in the opening Starting values
42039	02038	Material XSegY slow opening Starting values
42040	02039	keep

Note: The above is all the contents of Modbus communication address table of AF-5K II - 116B / AF-10K II -106 automatic quantitative unit.If the device is equipped with a 7 - or 10-inch touch screen, read all of Chapter 7 carefully.Do not read Chapter 7 if the device is not equipped with a touch screen.

7. Touch screen Operation Instructions (optional)

7.1 Login screen



Interface Description: The interface is displayed after startup and before login.

Operating instructions for buttons and operation boxes (applicable to all operating interfaces of the device):



1. **Setting** Click this button to enter the parameter setting interface.



2. **Auto Setting** Click this button to enter the automatic scale adjustment interface.



3. **History Data** Click this button to enter the historical data interface to view relevant data.



4. **Zeroing** Click this button to perform a reset operation.



5. **Stop** Click this button to make the device emergency stop.



6. **Stop** Click this button to start and stop the device.

7. 0.300s

- Click this type of operation box to modify this value.

8.


- Click this type of operation box to select and set this definition.

9.

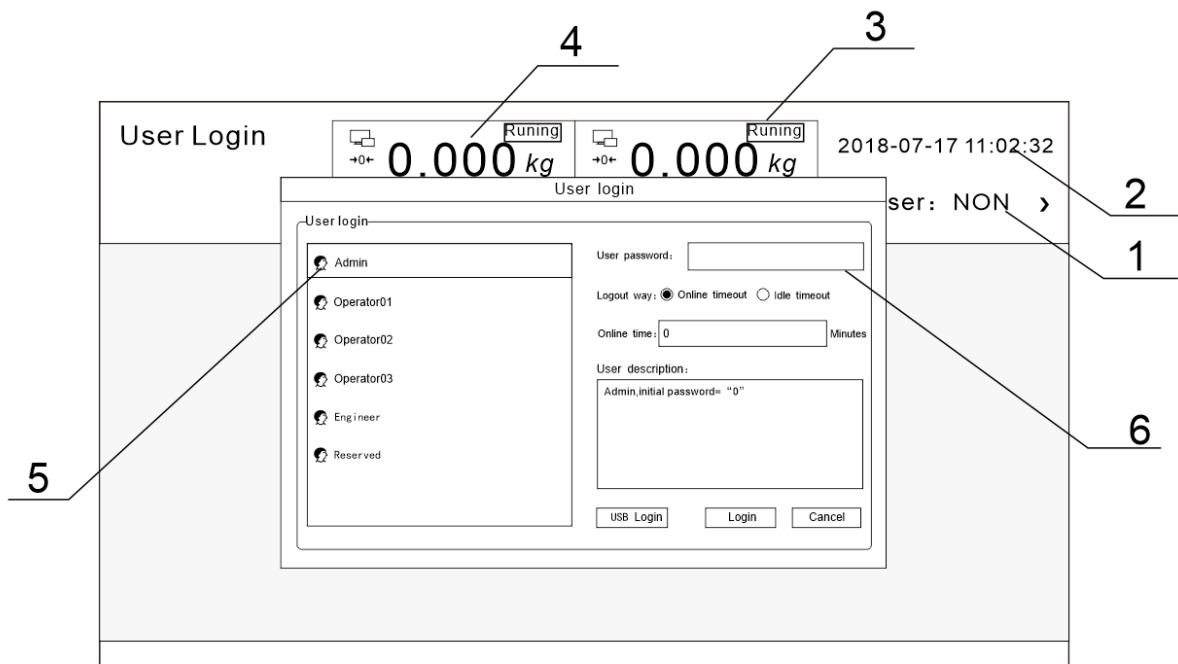
- Click this type of operation box to perform corresponding operations.



10. Click this type of operation box to set the opening and closing of corresponding functions.

11.  Previous Page Click this type of operation box to switch pages.

7.2 Touch screen login permission description



Interface description:

- 1: indicates the level of the current login user.
- 2: indicates the system date and time, indicating the current system date and time.
- 3: indicates the working status of the equipment.

4: Weight display area, display the current weight and weight unit, if the weight overflow or sensor overflow, there will be text prompt in this area, such as: "weight overflow", "weight overflow", etc.

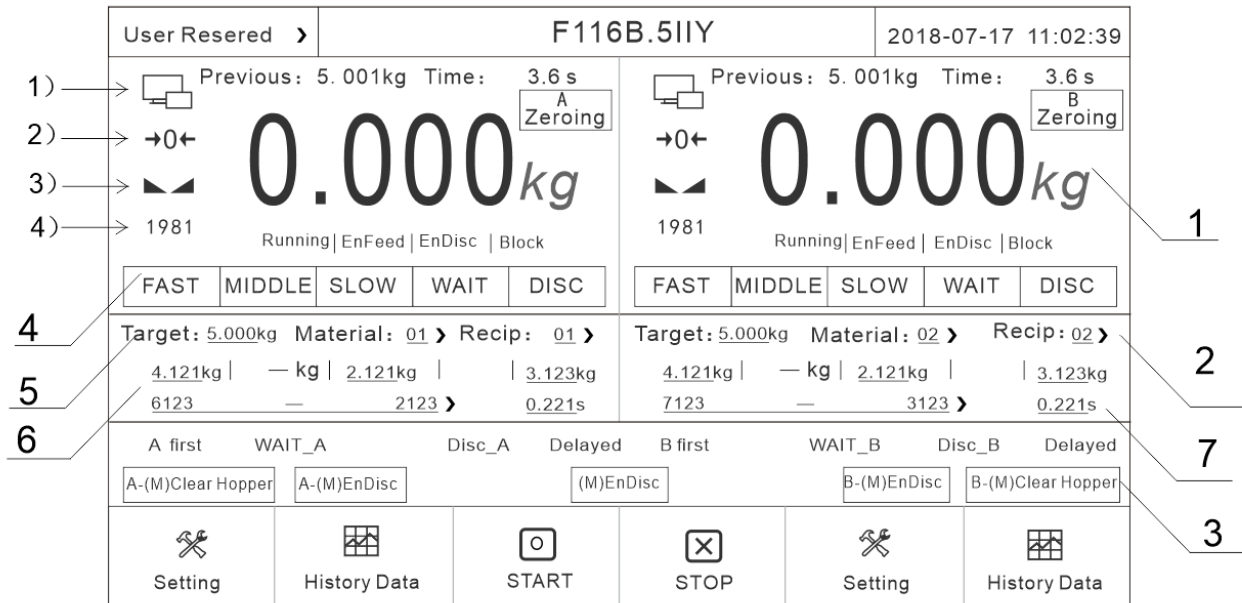
5: Login user selection area, showing all users that can be selected.

6: User password input box, select a user account and enter the corresponding user password

user name	user	Password	limits of authority
Admin	administrators	0	Not allowed: scale calibration/switching value/motor parameters, etc
Operator01	Operator01	1	it is not allowed to set the scale calibration/switching value/motor parameters/system information, etc
Operator02	Operator02	2	
Operator03	Operator03	3	
Engineer	Engineer	Please obtain the password from the manufacturer	Unlimited operation
Reserved	Reserved	No user action required	No user action required

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.3 Main Interface description



Interface description:

1. Current weight and equipment status, where:

- 1) Communication status. When the communication is normal, the icon is green.
- 2) Zero flag. When the current weight is at zero, the icon is green.
- 3) Weight stability indicator. When the weight is stable, the indicator icon is green.
- 4) Opening mark, opening of current material door.

In addition, there are allowed feeding, unloading, operation or stop status display.

2. The current material number and formula number can be set to replace the formula or material. Click the "Formula Setting" button on the right to modify the current formula parameters.

3. Currently available manual operation: manual discharging A, manual discharging A, manual discharging, manual discharging B, manual discharging B, all the buttons can manually control the corresponding action (the operation is invalid during operation).

4. Each state of the device when it is running. When the device is in the stopped state, the corresponding manual operation can be performed (the runtime operation is invalid).













5. Current target value.

6. The feed cut-off advance value and target value under the current formula.

7. Discharge time and feeding door opening Settings under the current formula.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.4 The parameter setting page is described

A-Setting < HOME		 0.000 kg FAST MIDDLE SLOW DISC Runing	 0.000 kg FAST MIDDLE SLOW DISC Runing	2018-08-18 10:02:26 USER: engineer
 Work Parameters Zeroing,digital filter,stable judge	>	 Communication Para. Protocol,baud rate,format	>	
 Recipe Parameter Target,Reserves,Steps...	>	 History Data Query,export,clear data	>	
 Calibration Capacity,calibration...	>	 Auto Setting Process parameter self-learning	>	
 I/O Define,Test...	>	 User Management Password modification,logout	>	
 Control Parameters Frequency,Door Opening	>	 System Information Version,Backup,Upgrade...	>	

Interface description:

Working parameters: basic parameters of the product can be set, such as zero clearance range, zero clearance time, unloading mode and so on.

Communication parameters: the communication parameters of the product can be set. Serial port 1 is used to communicate with the touch screen. The parameters cannot be modified, but can be adjusted automatically through the serial port. Serial port 2 can be used as an external serial communication interface. The communication parameters can be set by oneself, but should be consistent with the communication equipment (see 7.10 Communication Interface description for details).

Formula parameters: can modify the current formula number, as well as the parameter value of the current formula to modify, such as modify the lead quantity, material door opening, unloading time, etc.

Historical data: You can query previous packing records on the historical data screen and export the packing records to a USB flash drive.

Calibration scale: zero calibration, weight calibration, material calibration, and maximum range setting.

Automatic balance: Can only set up the target and the scale number, click the start after adjustment scale button, the equipment is up and running, in setting the number of times to adjust the value of each schedule, after completing the scale number, if meet the needs of users, the user can press the save button, will automatically adjust the data as the current formula value after the nc data, if give up, The debugging data is restored to the factory default data.

On/Off quantity: Users can define and set the input quantity and output quantity according to their own requirements. The control board has 4 inputs and 6 outputs (for details, see 7.8 Switch Quantity Description).

User management: Switch user rights.

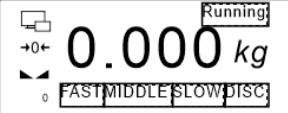
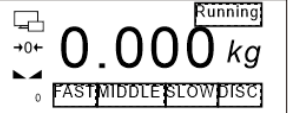
Control parameters: parameters of the feeding motor can be set.

System information: Displays the current touch screen software version and control board software version. You can also update the control board program using the USB flash drive (for details, see 7.14 USB Flash Drive Upgrade Description).



Users can also reset the parameters, time and screen display related Settings.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".



7.5 Description of working parameters

A-Work Para.-1						2018-08-18 10:02:26	
Parameters Setting						User: engineer	
Zeroing Range:	10%	Stable range/time:	1d	0.300s			
Auto Zero Interval:	0	DigitalFilter (Running)	Feed: 7	Wait: 3	Disc: 8		
Additional Clear Nums at sart:	3	Digital filter level[STOP]	9				
Delay Time for Zeroing:	0.200s	Add to Total When(M)Disc:	<input type="checkbox"/>				
Automatic Zero When powered on:	<input type="checkbox"/>	Result Holding:	<input type="checkbox"/>				
Zero Tracking Range/Time:	1d 0.200s	Self Adaption:	<input type="checkbox"/>				
Processing of Zeroing failure:	Waiting for stability	Auto Setting/ Self Adaption Level	Level2[balanced]				
< HOME				Next Page >			

Working parameters 1 diagram

A-Work Para.-2		 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC		 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC		2018-08-18 10:02:26	
Parameters Setting						User:engineer	
Disc mechanism Type: <u>Air-operated</u>				Disable Feeding When OFL:		<input type="checkbox"/>	
Disc Mode: <u>Near zero+delay</u>				Positive Deviation:		<input type="checkbox"/>	
Disc Delay Time: <u>9.999s</u>				UnLock Bag Mode: <u>Auto UnLock</u>			
Disc Overtime: <u>9.000s</u>				After Lock/UnLock Delay Time: <u>0.500s</u>			
End Wait Mode: <u>Dealy Dnd Wait</u>				Before UnLock Delay Time: <u>0.500s</u>			
Wait Over Time: <u>0.0s</u>				Feeding cut-off Judgment Time: <u>15.000s</u>			
Deal with Wait Over Time: <u>Alarm&Stop</u>				Feeding cut-off Smart Judgment:		<input type="checkbox"/>	
Previous Page		HOME				Next Page	

Working parameters 2 diagram

A-Work Para.-3		 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC		 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC		2018-08-18 10:02:26	
Parameters Setting						User:engineer	
Set Batch Number: <u> 0</u>							
Uncomplete Batche Number: <u> 0</u>							
				Scale Range Type: <u>5K</u>			
				Vibrator: <u>Yes</u>			
				Motor Type: <u>Server Motor</u>			
Previous Page		HOME					

Working parameters 3 diagram

Interface description:

- (1) Clearing range: clearing range (1%-20% of the full range).
- (2) Automatic zeroing interval: during operation, the device automatically zeroing after completing the set number of packets.

- (3) Start additional zeroing times: after the equipment enters the running state, the second scale shall start, and zeroing shall be performed continuously before feeding, and the number of times shall be equal to the set value of this parameter. For example, the number of additional zeroing is 2, the second and third scales are zeroed before feeding after starting.
- (4) Additional delay of zero clearing: when zero clearing is needed (whether automatic zero clearing interval or additional zero clearing interval), before zero clearing, the equipment completes the delay before feeding + after this delay, the operation of zero clearing begins.
- (5) Automatic zeroing when the device is powered on: The device is automatically zeroed when it is powered on.
- (6) Zero-point tracking range/time: zero-point tracking range 0-9D This parameter is optional. Zero-point tracking time ranges from 0.001 to 9.999.
- (7) Automatic clearing failure handling: Indicates the handling method after automatic clearing failure, including clearing the next packet again, suspending the three-packet failure, continuing to wait for stability, and suspending the packet immediately.
- (8) Stability range/time: the range of stability evaluation is 0~99d, which is optional. If the weight change within the stability evaluation time does not exceed the range of stability evaluation, it is considered as stable; otherwise, it is considered as unstable.
- (9) Operation filtering level: the filtering level used in the operation process, ranging from 0 to 9, which can be divided into feeding, fixed value and unloading. The higher the value, the better the filtering effect, but the greater the lag.
- (10) Stop filtering level: the filtering level used in the stopped state, 0-9, the larger the value, the better the filtering effect, but the greater the lag.
- (11) Manual unloading accumulation: when manual unloading, packing weight is counted into the accumulation.
- (12) Constant weight retention: the weight display shall remain unchanged after the end of the fixed time until the unloading is completed.
- (13) Adaptive switch: If this switch is turned on during the operation of the device, the device will automatically adjust the scale according to the adaptive level.
- (14) Adaptive & automatic balancing grade: it can be divided into five grades: zero grade for optimal speed, first grade for slightly better speed, second grade for equalization, third grade for slightly better accuracy, and fourth grade for optimal accuracy.
- (15) Unloading mechanism type: pneumatic and electric, can be selected according to the specific structure of the equipment.
- (16) Discharging mode: it can be divided into two modes: time control discharging mode and zero-zone delay discharging mode. The discharging door is closed when the unloading time is from discharging to discharging; the unloading door is closed when the unloading weight is less than zero zone value when the delay time is started.
- (17) Unloading timeout time: if the unloading process exceeds the set time, the equipment will prompt the unloading timeout alarm message and automatically return to the stop state.
- (18) Fixed value mode: it can be divided into two modes: time fixed value and judgment stable value.
- (19) Fixed value timeout: If the fixed value is not completed within this time, the fixed value timeout processing will be entered.

(20) Fixed value timeout processing: optional timeout alarm without suspension, three-packet alarm before suspension, continuous alarm and wait for stability, continuous alarm and pause.

(21) Overrange protection: when turned on, from zero to zero (plus the part cleared), the weight is large

When it is equal to 1.2 times of the upper limit of the quantitative range, it enters the state of overrange protection. This function can prevent the occurrence of the situation that the weight is small but it has been overflowed after the larger weight is cleared to 0.

(22) Positive error mode: in the process of feeding after opening, the error generated by feeding results will be positive.

(23) Bag loosening mode: You can choose between automatic bag loosening or manual bag loosening.

(24) Delay after bag clamping/loosening: After the bag clamping or bag loosening signal is output, delay the time to stop the signal output.

(25) Delay before bagging: After delaying this time, the bagging signal is output.

(26) Fast heater cutoff timeout: If the material does not reach the set value after delaying this time, it is determined as fast heater cutoff.

(27) Intelligent judgment of fast heater cutoff: When turned on, it enters the intelligent judgment mode of fast heater cutoff.

(28) Set Batch Number: The set batch number.

(29) Number of remaining batches: The number of remaining batches.

(30) Compulsory use of three-level feeding (shared by AB scale).



(31) AB interlock scale mode: When turned on, it enters the three-level feeding mode.

(32) Forced shutdown of A (only used when A scale fails): A scale can be directly closed.



(33) Scale specification, vibration plate and motor type: these functions are set by the manufacturer, but not by engineers and users.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".


7.6 Description of formula parameters

A-Rec. Para.-1		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		2018-08-18 10:12:26
Parameters Setting				User:engineer		
Target:	5.000kg		Recipe ID:	09		
Fast Remains:	3.800kg	Automatic adjustment >	Fast Steps:	16001		
Middle Reserve:	-----kg		Middle Steps:	----		
Slow Reserve:	0.038kg		Slow Steps:	----		
Disc Mode:	Time Control Disc >					
Disc Delay Time:	0.200s		Waiting Time:	0.800s		
			Multiple Disc Num:	00		
		< HOME		Next Page >		

Formula parameters 1 diagram

A-Rec. Para.-2		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		2018-08-18 10:12:26
Parameters Setting				User:engineer		
Before Feeding time[T1]:	0.300s		OVER/Under Check:	<input type="checkbox"/>		
			OVER Value:	0.010kg		
			Under Value:	0.005kg		
SLOW Feeder Replenish:	<input type="checkbox"/>		Alarm time:	2.000s		
Replenish Once Time:	0.400s		Auto Stop When Alarm:	<input type="checkbox"/>		
Max Num of Replenish	1					
		< HOME		Next Page >		

Formula parameters 2 figure

A-Rec. Para.-3		 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC	 Runing +0+ 0.000 kg FAST MIDDLE SLOW DISC	2018-08-18 10:12:26
< Parameters Setting				User : engineer >
Feeding cut-off Judgment Time:	15.000s			
Feeding cut-off Smart Judgment:	<input type="checkbox"/>			
Safe Steps Activated Weight:	0.000kg			
Safe Steps after Feeding Cut-Off:	0			
when the Fast Feeding time over the "Feeding out-off Judgment Time", it is judged the flow Cut-off then, if the remaining weight is greater then "Safe Steps Activated Weight" the Feeding gate opened with Safe Steps, else trun to Slow Feeding				
< Previous Page		< HOME		

Formula parameter 3 diagram

Interface description:



- (1) Target value: A quantitative weight is required.
- (2) Rapid acceleration advance: During the quantitative process, if the weighing value is \geq the target value - the rapid acceleration advance, the rapid acceleration will be turned off.
- (3) Intermediate dosing advance: During the dosing process, if the weighing value is \geq the target value - intermediate dosing advance, the intermediate dosing will be turned off.
- (4) Drop value: During the quantitative process, if the weighing value is \geq the target value - drop value, the slow heater will be turned off.
- (5) Unloading mode: You can select time controlled unloading or zero zone delayed unloading.
- (6) Unloading time: Unloading signal output stops after lasting for this time.
- (7) Zero zone value: During the quantitative process, if the weighing value is \leq zero zone value, the unloading delay timer will be started.
- (8) Recipe Number: The number of the current recipe.
- (9) Quick feeding opening: The opening of the feeding door during fast feeding of materials.
- (10) Medium dosing opening: the opening of the feeding door when adding materials.
- (11) Slow feeding opening: The opening of the feeding door during slow feeding of materials.
- (12) Fixed value time: the time to determine the weight after feeding is completed.
- (13) Combination Times: This is a reserved parameter. Currently, the device does not support the multi scale combination function.
- (14) Delay before feeding T1: When the quantitative process starts, the feeding process starts after a delay of T1 time;
- (15) Slow feeding and replenishment switch: When this switch is turned on, the equipment

automatically performs slow feeding and replenishment.

- (16) Single Replenishment Time: The time of a single replenishment.
- (17) Maximum Replenishment Times: The maximum number of replenishment times for the equipment.
- (18) Over/under tolerance switch: A switch that enables the over/under tolerance detection function.
- (19) Over tolerance: During the quantitative process, if the weighing value is greater than the target value+over tolerance, it will be judged as over tolerance.
- (20) Under tolerance: During the quantitative process, if the weighing value is less than the target value - under tolerance, it is judged as under tolerance.
- (21) Over/under tolerance alarm time: The duration of the over/under tolerance alarm output after detecting over/under tolerance. After this time, the over/under tolerance alarm automatic output is invalid.
- (22) Over/under tolerance pause switch: When this switch is turned on, if over/under tolerance occurs, the device pauses for user processing, and can then "clear the alarm" and continue running; You can also return to the stop state after an "emergency stop".
- (23) AB interlocking scale body mode: There are single scale, A scale, and B scale options. When using dual scale interlocking, it can be set to A scale or B scale.
- (24) AB interlock delay time: The interlock delay time is a limit time given to another weighing machine. It is specified that the output is valid within this time, and the other weighing machine cannot be unloaded. The default time is 1s
- (25) Fast heater cutoff timeout: If the set value is not reached after exceeding this time, it is determined as fast heater cutoff.
- (26) Intelligent judgment of fast heater cutoff: Turn on the switch, and the system will automatically determine the fast heater cutoff.
- (27) Opening weight of cut-off safety opening: When the material weight is higher than this value during cut-off, the safety opening will be opened, otherwise the original opening will remain unchanged.
- (28) Safety opening degree of flow cutoff: This opening degree can ensure that the material will not be overweight when it is washed down instantaneously when it comes again. Target value: The weight to be quantified.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.7 Calibration interface description

A-Calibration		 Running <div style="text-align: center; font-size: 24px;">0.000 kg</div> <div style="text-align: center; font-size: 10px;">FAST MIDDLE SLOW DISC</div>	 Running <div style="text-align: center; font-size: 24px;">0.000 kg</div> <div style="text-align: center; font-size: 10px;">FAST MIDDLE SLOW DISC</div>	2018-08-18 10:12:26 User:engineer
< Parameters Setting				>
Unit: ["kg" only]	kg >	Decimal point:	0.000 >	
Minimum Division: [1d=0.001kg]	01 >	Capacity:	15.000kg	
Over Capacity mode:	Cap*120% >			
Step 1: Confirm that the hopper is empty and the discharge door is closed, Wait for the indication to be stable, click the buton to complete the clibration!		Step 2: Add standard weight, wait until the display is stable, input the actual weight, and click the button!		
Loadcell Output-mV:	<div style="border: 1px solid black; padding: 2px; display: inline-block;">8.000 mV</div>	Zero Calibration	Weight-mV:	<div style="border: 1px solid black; padding: 2px; display: inline-block;">8.000 mV</div>
			Weight:	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3.000kg</div>
				Weight Calibration
< HOME		Calibration with materials >		

Interface specification

- (1) Unit: The fixed value is kg
- (2) Minimum score: 1 2 5 10 20 50 Optional.
- (3) Display mode of overrange: there are three options: when the current weight is greater than: maximum range + 9D, maximum range *120%, and maximum range *150%, the device will prompt weight overflow.
- (4) Decimal point: fixed value 0.000, that is, three decimal places after the decimal point.
- (5) Maximum range: maximum range of the device (do not set it to more than 20.00kg).

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.8 Step of weight calibration

1. Zero point calibration: empty the hopper and close the discharge door. Click "Zero point Calibration" after the weight is stabilized. During the calibration process, the weight display area above will display the calibration result, and stability will be displayed after successful calibration.
2. Gain calibration: Add weights to the weighing mechanism, click the weight input box after the weight is stable, input the weight of the weight, click "weight Calibration", the weight display area above the calibration process will also display the calibration result. After successful calibration, the weight displayed in the weight display area is the input weight. Otherwise gain calibration fails. Try again.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.9 Material calibration steps

Calibration with materials < Parameters Setting	Running +0+ 0.000 kg FAST MIDDLE SLOW DISC	Running +0+ 0.000 kg FAST MIDDLE SLOW DISC	2021-09-26 10:02:26 User <input type="checkbox"/> engineer >
Step1: Empty the scale bucket and wait for the MV value to return to zero.		12.000 mV	Zero Calibration
Step2: Click "automatic feeding" [by target value] or "(M)Fast" [by time]. Start charging. (please make sure the weight has been calibrated before automatic charging, The weight is roughly accurate, otherwise it may be filled with overflow, etc) Wait until the weight indication is stable, click "record weight" to save the current displayed value. Bag claming and unloading, weigh on the standard scale to obtain the weight of the double scale (pay attention to peeling)		Target: 5.000kg Auto Feeding Udfeeding (M) Feeding TIME: 1.0s	Current Weight: 1.000kg Save the weight (M) Disc
Step3: Input the weight of the weigher, click "automatic feeding", and the controller will automatically Record the weight Calibration as the weight of the scale		Standard weight: 3.000kg	Calibration with materials
< Weight Calibration		< HOME	

1. Zero calibration: the method is the same as the zero calibration of the weight calibration scale.

2. Gain calibration:

A. Use "automatic feeding" (automatically run a scale according to the current formula target value) or "manual feeding" (click once to start fast adding, click again to close fast adding), stop feeding and wait for the weight to stabilize, click "Record Weight" to save the current displayed value.


B. Place the bag or container prepared in advance at the unloading port, click "Manual unloading", unload all the materials in the hopper into the bag or container, weigh the materials in the bag or container (pay attention to remove the weight of the bag or container).

C. Click the input box of "Compound weight", enter the weight of the material obtained by the compound weight, and click "Material Calibration" for calibration. Wait until the calibration succeeds. After successful weight calibration is completed, exit the menu.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".


7.10 Description of switch quantity interface

A-I/O-1:Input



+0+
0.000 kg

FASTMIDDLESLOWDISC



+0+
0.000 kg

FASTMIDDLESLOWDISC

2018-08-18 10:12:26
 User:engineer

← Parameters Setting


Port	Define	Status	Port	Define	Status
IN01	START	<input checked="" type="radio"/>	IN05	Bag clamping request	<input checked="" type="radio"/>
IN02	Emergency Stop	<input checked="" type="radio"/>	IN06	undefined	<input checked="" type="radio"/>
IN03	Clear alarm	<input checked="" type="radio"/>	IN07	undefined	<input checked="" type="radio"/>
IN04	Interlock input	<input checked="" type="radio"/>	IN08	undefined	<input checked="" type="radio"/>

I/O Signal Test:

← HOME
Next Page →


Switching quantity 1 diagram

A-I/O-2:Output



+0+
0.000 kg

FASTMIDDLESLOWDISC



+0+
0.000 kg

FASTMIDDLESLOWDISC

2018-08-18 10:12:26
 User:engineer



← Parameters Setting

Port	Define	Status	Port	Define	Status
OUT01	RUN	<input type="checkbox"/>	OUT05	LockBag	<input type="checkbox"/>
OUT02	STOP	<input type="checkbox"/>	OUT06	undefined	<input type="checkbox"/>
OUT03	FAST	<input type="checkbox"/>	OUT07	undefined	<input type="checkbox"/>
OUT04	A&B Lock out	<input type="checkbox"/>	OUT08	undefined	<input type="checkbox"/>

I/O Signal Test:

← Previous Page
← HOME
Next Page →

Switching quantity 2 diagram

A-I/O-3: Motor Control PWM < Parameters Setting		 Running +0+ 0.000 kg FAST MIDDLE SLOW DISC	 Running +0+ 0.000 kg FAST MIDDLE SLOW DISC	2018-08-18 10:12:26 User: engineer >	
A-PWM1 Port		Feed StepMotor >	A-PWM2 Port		IO >
Port	Define	Status	Port	Define	Status
PU1	Feed Motor PU		PU2	<input type="text" value="undefined"/>	<input type="checkbox"/>
DR1	Feed Motor DR		DR2	<input type="text" value="undefined"/>	<input type="checkbox"/>
ZT1_1	Feed Motor Closed	<input checked="" type="radio"/>	ZT2_1	<input type="text" value="undefined"/>	<input checked="" type="radio"/>
ZT1_2	Feed Motor Limit	<input checked="" type="radio"/>	ZT2_2	<input type="text" value="undefined"/>	<input checked="" type="radio"/>
I/O Signal Test: <input type="checkbox"/>					
< Previous Page		< HOME			

Switching quantity 3 diagram

Parameter Description:

(1) Input ports (IN01, IN02, IN03, IN04, IN05, IN06, IN07, IN08) can be customized by customers:

(2) The input ports (ZT1_1, ZT1_2) are fixed as photoelectric signals for the motor in place; The input ports (ZT2_1, ZT2_2) are general-purpose switching values, where ZT2_1 has been set as servo alarm by default, ZT2_2 Customer customizable.

(3) The output ports (OUT01, OUT02, OUT03, OUT04, OUT5, OUT6, OUT7, OUT8) can be customized by the customer.

(4) The output ports (DR1, PU1) are direction signals and pulse signals of the motor; The output ports (DR2, PU2) are general-purpose switching values, where the default setting for DR2 is slow acceleration, and the default setting for PU2 is unloading.

(5) Switching value test: After being turned on, you can test whether the corresponding switching value signal is normal.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

Input definition:

The port number	The initial value	Custom list
-----------------	-------------------	-------------

IN1	1	I00: No definition I01: start I02: stop
IN2	2	I03: stop I04: Feeding stepper motor origin (close the door to A level)
IN3	5	I05: Feeding allowed I06: Unloading allowed
IN4	6	I07: Clear alarm I08: keep
IN5	0	I09: Open/close unloading door [originally manual unloading Function, switch discharging output state]
IN6	0	I10: Manual unloading I11: Manual slow add I12: Manually add
IN7	0	I13: Manual fast add [by fast open open The door]
IN8	0	I14: Manual cleaning [open according to the maximum opening The door]
ZT1_1	4	I15: Start/stop (double edge: effective edge, Start;Invalid edge, stop)





ZT1_2	24	I16: Start/emergency stop (double edge) I17: Manual unloading (double edge)
ZT2_1	0	I18: Manual slow adding (double edge) I19: Manual adding (double edge)
ZT2_2	0	I20: Manual quick add (double edge) I21: Manual cleaning (double edge) I22: reset I23: Emergency stop [level](valid, no Start allowed, manual feeding not allowed, not allowed Manual unloading is allowed) I24: feeding stepping motor limit point. I25: Unloading stepping motor origin. I26: limit point of unloading stepping motor. I27: jam I28: Servo motor alarm I29: Double scale interlock input

Output definition:

The port number	The initial value	Custom list
OUT1	1	O00: No definition Run O01: O02: Refueling request O03: Feeding stepper motor direction [PW available The signal is set to feed PWM] O04: quick to add I add O05: O06: slow O07: fixed value O08: unloading L O09: over difference O10: alarm 11: clip bag O12: Preset number of packets completed O13: Once packing is completed (unloading is completed After output 1s clock) O14: stop O15: direction of discharging stepper motor O16: Discharging motor running/forward O17: The unloading motor reverses O18: Feeding PWM[only available at OUT7/OUT8]
OUT2	4	
OUT3	5	
OUT4	6	
OUT5	7	
OUT6	0	
OUT7	0	
OUT8	0	
DR1	3	
PU1	0	
DR2	8	
PU2	0	

		O19: Discharging PWM[only available at OUT7/OUT8] O20: Servo motor alarm O21: Completion of setting value O22: Double scale interlock output
PWM1 function	1	1: general switching quantity 2: feeding motor control 3: unloading motor control
PWM2 function	0	

7.11 Control Parameters screen Description

A-Control Parameters		 0.000 kg Runing	 0.000 kg Runing	2018-08-18 10:12:26
< Parameters Setting				User:engineer >
Disable judgment Time	0.700/ 0.700/ 0.700 s	Feeding StepMotor Status:	RUN CLOSE ZERO 2198	
Disable judgment Time Auto Adjust	<input type="checkbox"/>			
		Feeding StepMotor Work Frequency	60.0kHz	
		Feeding StepMotor Start Frequency	20.0kHz	
		Fast Steps:	6123	Feeding StepMotor Steps Tab
Feeding StepMotor Max.Step:	20000	Fast Steps:	4123	
		Slow Steps:	2	
< HOME				

Interface specification

(1) Prohibition time for fast, medium, and slow acceleration: At the beginning of quantification, to avoid overshoot, weight judgment is not performed at this time. Fast acceleration, medium acceleration, and slow acceleration are always effective

(2) Slow acceleration intelligent prohibition switch: When this switch is turned on, the slow acceleration intelligent prohibition function is enabled.



(3) Motor Subdivision: Set value of motor subdivision.

(4) Reducer reduction ratio: The reduction ratio of the current reducer.



- (5) Maximum angle of feeding gate: the maximum opening angle of the current feeding gate.
- (6) Maximum opening degree of charging motor (pulse number): To protect the motor, the maximum opening degree allowed after starting the motor is allowed.
- (7) Initial Opening Calibration Value: The calibration value of the current initial opening.
- (8) Feeding motor status: four states can be seen: stop, open, origin, and opening.
- (9) Feeding motor operating frequency: the frequency at which the feeding motor operates normally.
- (10) Starting frequency of charging motor: the frequency at which the charging motor is started.
- (11) Quick heater opening: the current fast heater opening value.
- (12) Medium Plus Opening: The current medium plus opening value.
- (13) Slow heater opening degree: the current slow heater opening degree value.

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".

7.12 Communication Parameters screen description

A-Communication Para.		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		 Runing 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		2018-08-19 10:09:36	
◀ Parameters Setting						User:engineer ▶	
A-COM1	Used to this HMI, Cannot set:			A-LAN	The LAN port on the controller. Not the LAN port on this HMI.		
ID:	001			IP and Port:	_ 0 . _ 0 . _ 0 . _ 0 : 000		
Protocol:	Modbus-RTU ▶			Protocol:	Modbus-TCP/IP ▶		
BAUD:	<small>[may not be default, adaptive]</small>	57600 ▶		DoubleWord Format:	AB-CD ▶		
Byte Format:	<small>[Parity bit can be different]</small>	1-8-E-1 ▶		MAC:	00: 00: 00: 00: 00: 00:		
DoubleWord Format	AB-CD ▶						
HMI parameters:	COM2	57600	Even				
◀ HOME				Next Page ▶			

Communication parameter 1 diagram

A-Communication Para.		 Running 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		 Running 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		2018-08-19 10:09:36	
Parameters Setting						User:engineer	
A-COM1	Used to this HMI, Cannot set:			A-LAN	The LAN port on the controller. Not the LAN port on this HMI.		
ID:	001			IP and Port:	0.0.0.0:000		
Protocol:	Modbus-RTU			Protocol:	Modbus-TCP/IP		
BAUD:	<small>[may not be default, adaptive]</small>	57600		DoubleWord Format:	AB-CD		
Byte Format:	<small>[Parity bit can be different]</small>	1-8-E-1		MAC:	00:00:00:00:00:00		
DoubleWord Format	AB-CD						
HMI parameters:	COM2	57600	Even				
HOME				Next Page			

Communication parameter 2 diagram

Interface description:

- (1) Address number: Slave number. The ID number of the serial communication
- (2) Protocol Type: Communication protocol. Select the protocol for serial communication.
- (3) Baud Rate: Select the baud rate of the serial port.
- (4) Byte Format: Data format. Initial value; 1-8-E-1 (8-bit data bit-even parity - 1-bit stop bit;)
- (5) Double word register order: Modbus high and low words The order in which high words come first is AB-CD, and the order in which low words come first is CDAB.
- (6) Current HMI communication parameters: Displays the current communication parameters of the touch screen.
- (7) IP and Port: IP address.
- (8) MAC: MAC address.



7.13 Historical data page description

Index	TIME	Mat.Rec	Target	ACT.	Time	E	Sec.	Total PCS	Total	OP.	OL.
									Select	0P.	0L.
									Goto	0P.	0L.
										0P.	0L.
									Auto Refresh	<input type="checkbox"/>	
									(M)Refresh		
									Export to Udisk		
FirstPage	PreviousPage	NextPage	LastPage	Setting	Clear Data						

Interface description:

- (1) Automatic refresh/Manual refresh: Refreshes data.
- (2) Usb disk export: You can export historical data.
- (3) Clear data: Clear historical data.

7.14 Description of automatic balance adjustment interface

A-Automatic		 Running 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		 Running 0.000 kg <small>FAST MIDDLE SLOW DISC</small>		2018-08-18 10:42:26	
< Parameters Setting						User:engineer >	
Material ID/Name: 03 /		Material 03 >		Auto Setting/ Self Adaption Level: Level2[balanced] >			
Recipe ID/Tareget: 01 /		5.000kg		Steps Auto Adjust <input type="checkbox"/>		Levels	
Fast Remains: 2.000		1.600kg		Fast Steps: 1		6123	
Middle Reserve:				Middle Steps:			
Slow Reserve: 0.008		0.005kg		Slow Step: 1123		2	
Previous: 24.998		Total Time: 3.982		Remaining NUMS: 00		Current Status: END	
Fast: 2.232 Middle: 0.000		Slow: 1.234		Auto Setting Nums: 09		<input type="button" value="Give up"/>	
Wait: 0.900 Disc: 0.000		T1: 1.004				<input type="button" value="Start Auto Setting"/> <input type="button" value="SAVE"/>	
< HOME							

Interface description:

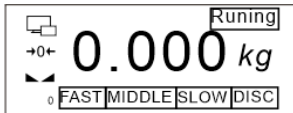
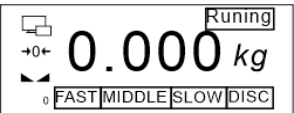
- (1) Material No./Name: You can set the material number and name;
- (2) Recipe Number/Target Value: Set the recipe number and target value;
- (3) Adaptive&Automatic Scaling Level: There are four levels in total, with Level 0 being the fastest, and the higher the level, the slower the speed;
- (4) Automatic adjustment of opening: automatic adjustment function switch for the opening of the feeding door;
- (5) Feeding Level: Two or three levels of feeding, automatically set by the system based on the target value;
- (6) Quick charging opening: the opening of the fast charging door.
- (7) Medium feeding opening: the opening of the medium feeding door.
- (8) Slow feeding opening: the opening of the slow feeding door.
- (9) Scale adjustment times: You can set the scale adjustment times.

Automatic weighing steps and description

Schedule and the opening is divided into two columns, as shown in the above, in front of its value for the automatic tuning weigh the value of the former at the back of the numerical value for automatic adjustment scale, users only need to set the number of scales (range 3-10), click on "start adjustment scale" can be in the process of automatic adjustment scale, equipment according to set automatically adjustable scale level automatically adjustable scale, At the same time, users can choose to save or abandon the adjusted value of automatic balancing according to the adjustment value of automatic balancing. Save the adjusted value of automatic balancing into the current formula. If you give up, the value before automatic balancing will still be used.If the balance adjustment

fails to meet the requirements of the user after completion, the customer can start the automatic balance adjustment again, and the equipment will adjust and modify again on the basis of the completion of the last balance adjustment. Users can also manually modify the lead and opening parameters.

7.15 Describes the user management interface

User Management < Parameters Setting			2018-08-18 10:45:20 User:engineer >
Current User Engineer			
Change Password >			
Log-off, Re-login >			
Auto Login: <input checked="" type="checkbox"/>			
< HOME			

Interface description:

Displays the current logged-in user, can change password and set automatic logged-in.

The user level of this system is divided into four levels, from high to low: reserved user (used by manufacturers), engineer, administrator and operator.

The cancellation

After a user logs in, to log out or switch to another user, click User Logout →

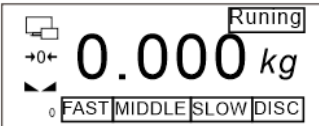

To switch a user, log out of the user management page and enter the user ID and password on the login page

Change the password

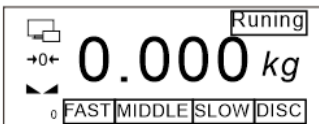
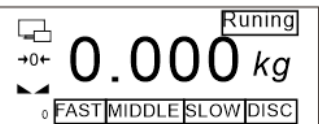
Path: parameter setting, user management, password modification, click on the password input box, and follow the prompts

For specific operation methods, please refer to Chapter 7.1 "Operating Instructions for Buttons and Operation Boxes".


7.16 System information interface description

SYS Info-1: Name and Version		 		2018-08-18 10:02:26
Parameters Setting				User:engineer >
Device Name:	AF-5K StepMotor/Serov Packing Scale			
Model :	AF-5K	<input type="button" value="COM1 ID Config"/>		
Software Version:	Weighing controller:	Ver:03.02.00	2018/08/08 18:18:18	<input type="button" value="A-U-disk Upgrade"/>
PLC:				
HMI: Ver:01.00.02 2018/08/09 18:19:19				
Manufacturer:	杰曼科技			
Support Hotline:	(+86) 0000-00000000			
HOME		Next Page >		

System information 1 figure

SYS Info-2: A-Reset Para.		 		2018-08-18 10:02:26
Parameters Setting				User:engineer >
Restore factory settings:	(Engineer) >	Reset Work Parameters:	(Engineer) >	
Recipe Parameter Reset	(Admin,Engineer) >	Calibration parameters Reset	(Engineer) >	
Reset I/O Define	(Engineer) >	Communication Para.Reset	(Engineer) >	
Reset Peripheral pameters	(Engineer) >	Reset Self Adaption Para	(Engineer) >	
<p>be careful:</p> <p>If you perform this operation,the original parameters will be lost It may lead to abnormal working condition of equipment</p>				
Previous Page		HOME		Next Page >

System information 2 figure

SYS Info-3:HMI Para and A Sync:		 Running <div style="text-align: center; font-size: 24px; font-weight: bold;">0.000 kg</div> <div style="display: flex; justify-content: space-between; font-size: 10px;"> →0← FAST MIDDLE SLOW DISC </div>		2018-08-18 10:02:26 User : engineer >	
< Parameters Setting					
Auto screen closing without operation: <input type="checkbox"/>		Auto off Screen Delay Time: <u>300s</u>			
Auto screen Save: <input type="checkbox"/>		Auto Screen Save Time: <u>300s</u>			
Hidden Language Select Menu: <input type="checkbox"/>					
HMI Time: 2018-08-18 10:02:26 <input type="button" value="Setting"/>		(M)Time Sync: <input type="button" value="HMI -> GMF01"/> <input type="button" value="GMF01 -> HMI"/>			
GMF01 Time: 2018-08-18 10:02:26 <input type="button" value="Setting"/>					
< Previous Page		< HOME			

System information 3 figure

Interface description:

System information 1 Shows the device information diagram. You can see the device name, model number, software version, manufacturer, technical support number, and so on.

System info 2 shows the restoration of factory Settings. Engineers and reserved users can reset all parameters. Specific instructions are as follows:

Restore factory Settings - Reset all system parameters to their default Settings.

Operating parameter reset - Resets basic system parameters to their default Settings.

Calibration parameter reset - Reset system calibration parameters to their default Settings.

Recipe parameter Reset - Resets system recipe parameters to their default Settings.

Peripheral parameter reset - Resets system peripheral parameters to their default Settings.

Adaptive parameter Reset - Resets system adaptive parameters to default Settings.

Communication parameter reset - Resets system communication parameters to default Settings.

Switch quantity definition reset - Reset the system switch quantity definition to the default configuration.

System info 3 The screen setting diagram is shown. Engineers can set the parameters of the touch screen.

Usb disk upgrade system:

This operation is very important and cannot be performed unless necessary. If the operation is necessary, please contact the company and complete under the guidance of professional personnel.

8. Basic Function description

8.1 Basic running process

After the external input running signal is effective, the equipment enters the running state and begins the automatic quantitative process. The specific process is as follows:

1. Judgment before starting, whether the target value is set reasonably, whether the size of the feeding door needs to be adjusted, etc.
2. Delay time before starting feeding.
3. If the self-adaptive function is turned on, judge whether self-learning is needed again (if the current formula does not have fast increase lead amount and fall value parameters, self-learning needs to be restarted); otherwise, feed directly according to the current formula parameters. The following describes the process after the adaptive function is enabled
4. If the adaptive function is turned on, the first scale learns the approximate fast increase and drop value.
5. Start feeding normally from the second scale, and according to the feeding results of each scale, the controller will calculate automatically to judge whether the fast adding value and the drop value are appropriate and make automatic correction.
6. Start the fixed hold time after feeding.
7. Record the current weight value as the result of the scale after the fixed holding time.
8. If the overcurrent and undercurrent detection switch is turned on, the overcurrent and undercurrent detection function is processed.
9. Judge the bag input signal is effective, then output unloading.
10. When the unloading time is up, close the unloading output and start the loosening bag to delay the loosening bag.
11. After the completion of a basic packaging process, proceed to the next packaging process and start the delay time before feeding.

8.2 Overage and underage detection function

After the over-under-difference switch is opened and the feeding is completed during operation, the current feeding result is judged after the fixed holding time ends:

Target value - underdifference value \leq feeding result \leq target value + out-of-tolerance value, then judged as qualified.

Feeding result $>$ target value + overerror value, then judged as overerror, output overerror alarm signal.

If the feeding result is less than the target value - underdifference value, it is judged as underdifference, and the over-underdifference alarm signal is output.

When the overgap occurs, if the overgap suspension switch is opened, the controller will temporarily schedule the packaging operation, prompting the overgap suspension and waiting for the user to process. The user can input the clear alarm signal to continue the

packaging operation, or input the emergency stop signal to enter the stop state and stop the packaging operation.

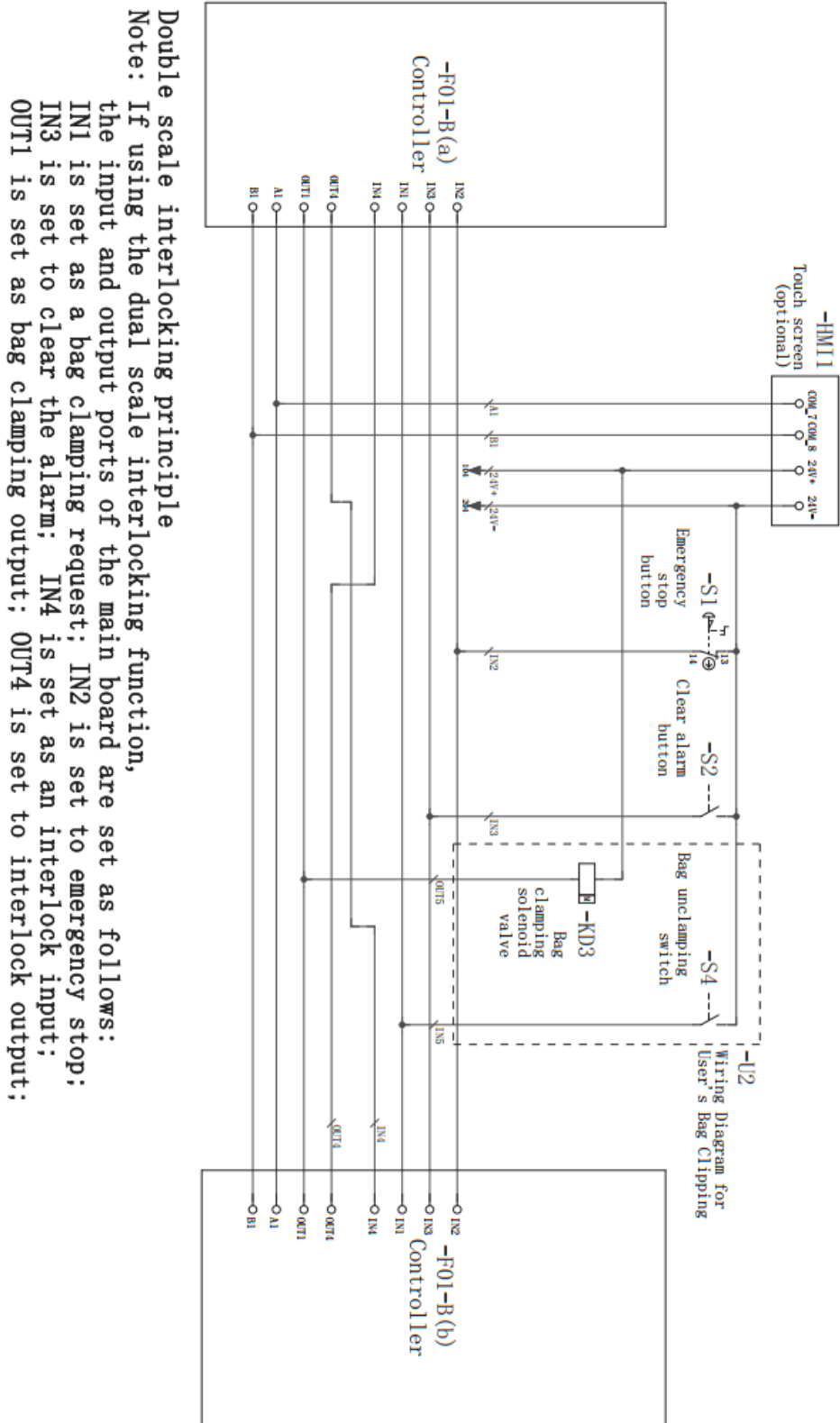
8.3 Overage and underage detection function

1. After setting the AB scale, the unloading delay time, and the on-off signal, it defaults to the dual scale mode.

2. After the external input operation signal is valid, the device enters the operation state.

3. Judge whether the bag clamping signal is valid. In the dual scale mode, Scale A responds to the bag clamping and unloads the material. At the same time, it will output an interlock signal to Scale B, and then Scale B will automatically cancel the bag clamping request (here is an example).

4. After completing a basic packaging process, proceed to the next packaging process.



Schematic Diagram of Double Scale Interlock

9. Common failure analysis and troubleshooting

Common faults in use, causes and handling methods.

The serial number	The fault phenomenon	fault	To deal with
1	Equipment start does not fall material	1. No material in storage bin 2. Storage bin stop door is not opened 3. Air source leakage connection 4. Air source pressure is too low or no pressure	1. Add material to storage bin 2. Open the storage bin stop door 3. Connect the air source 4. Increase air pressure or turn on air pressure switch
2	No unloading after weighing	1. The device cannot receive the bagging signal 2. The number of combinations of single scales is not set to 0	1. Check and eliminate 2. Set the corresponding combination times as required
3	The actual weighing has been out of tolerance	1. Equipment not calibrated 2. Fast increase the time limit setting is too large	1. To a scale 2. Fast increase the time limit appropriately reduced
4	The value is unstable	1. Strong winds or strong vibrations in the surrounding environment 2. Weight sensor failure	1. Check and eliminate 2. Check the sensor and replace if necessary
5	The weight is not up to standard	1. Weight sensor failure 2. Not cleared before use 3. Equipment not calibrated 4. Incomplete unloading	1. Check the sensor and replace if necessary 2. Stop reset 3. recalibrate 4. Increase discharge time appropriately

6	Data cannot be exported	1.U disk is damaged 2.The USB interface of the electrical control box is damaged	1.Replace the U disk 2.Check the interface
---	-------------------------	---	---

10. Maintenance and warranty

To ensure the weighing accuracy of the equipment, do not place the equipment in a cold and damp environment. Clean the dust generated by materials inside the equipment regularly according to the use condition. Remember to close the door of the electric control cabinet after daily use or maintenance.

- Warranty principle

In principle, the first installation and debugging should be carried out by our professional and technical personnel or companies entrusted by our company.

Equipment failure caused by the following conditions is not covered by our warranty:

- Do not follow the operation instructions
- Installation without professional guidance
- Make structural changes to the equipment
- Unauthorized damage to equipment
- Programming and operation errors
- Natural equipment damage